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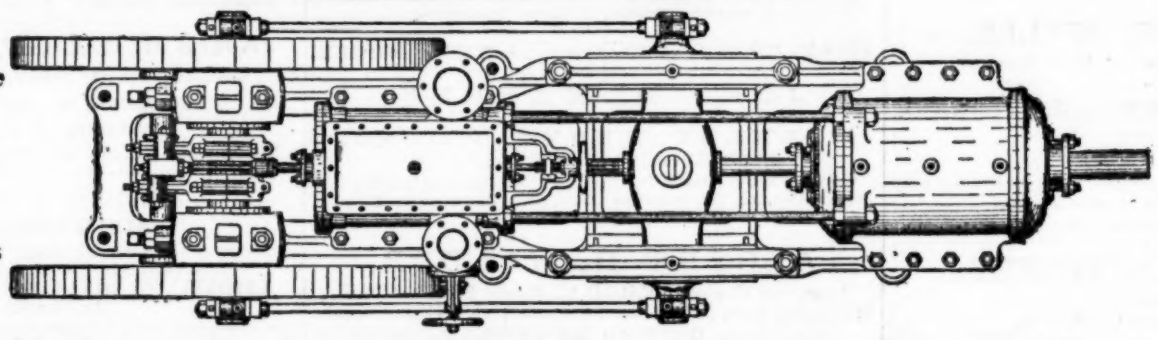

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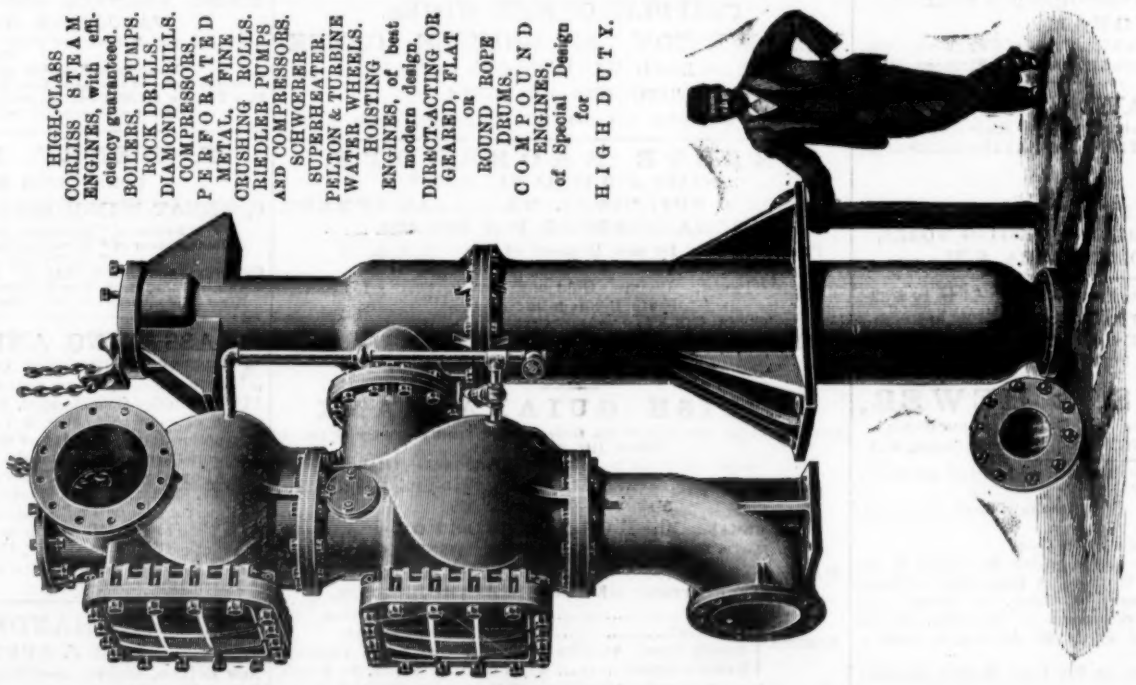

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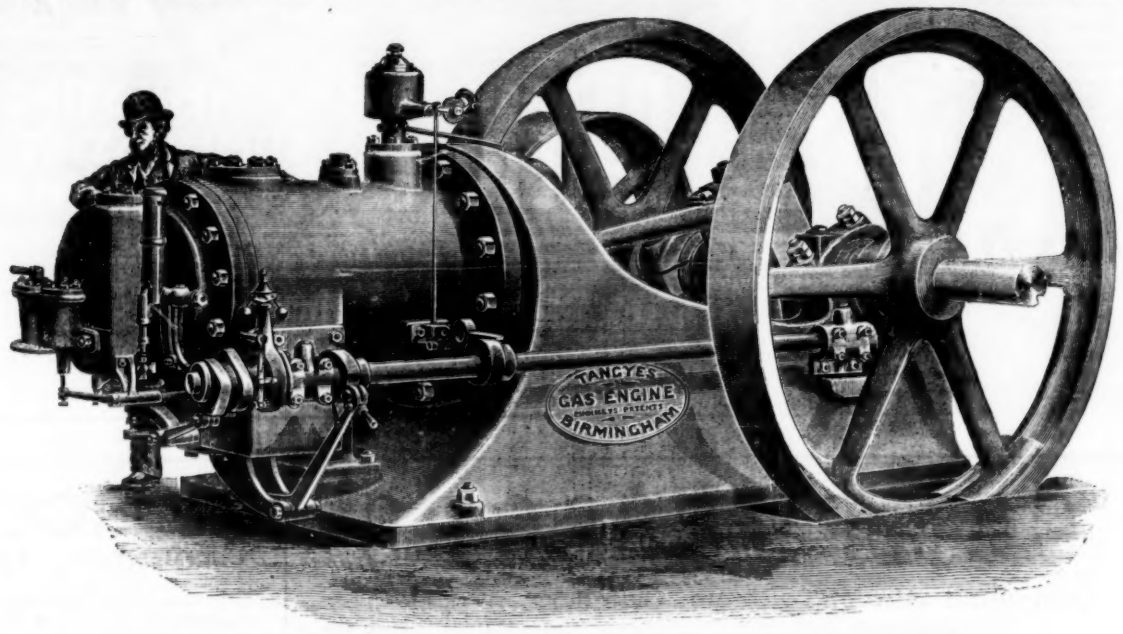

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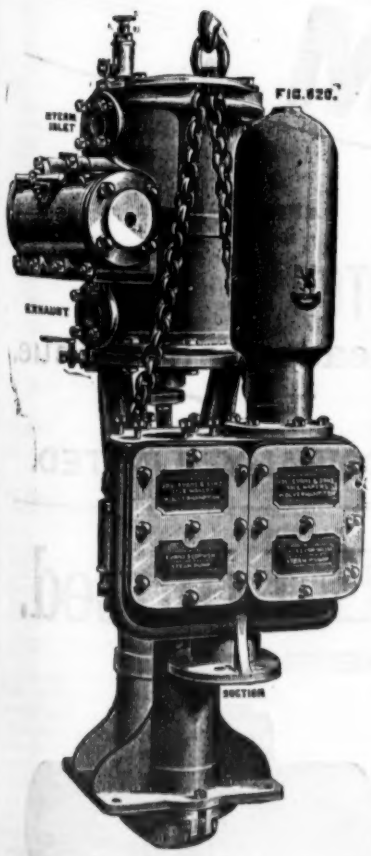

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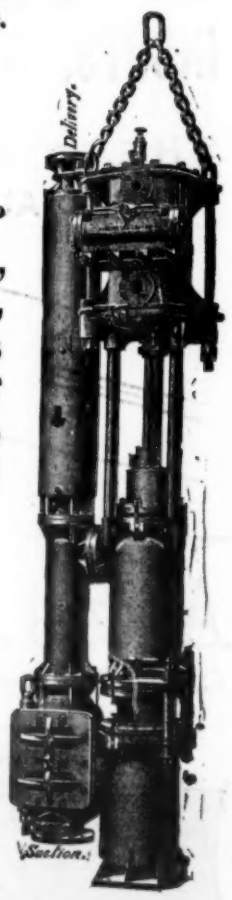

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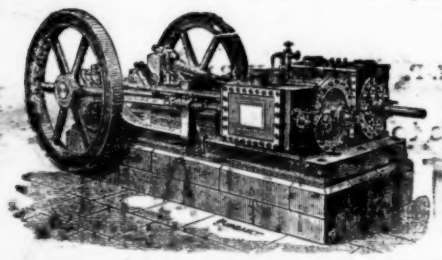

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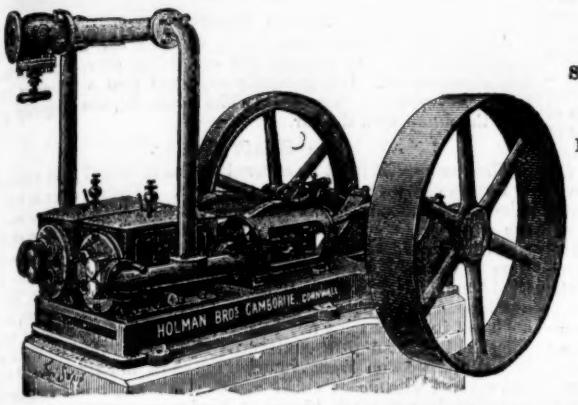

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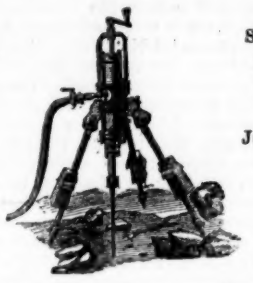

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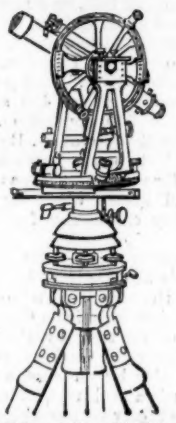
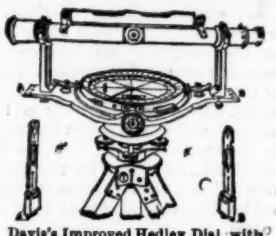


Transit Theodolite with Patent Hoffman Tripod Head, and Trough Compass.



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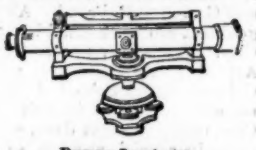

Dumpy Level with Hoffman Patent Tripod Head.

MINING, SURVEYING, AND ENGINEERING INSTRUMENTS

THEODOLITES. LEVELS. TACHEOMETERS

Davis's Improved Hedley Miners' Dials, with HOFFMAN PATENT TRIPOD HEAD;

AND ALL DESCRIPTIONS OF MATHEMATICAL AND MINING SURVEYING INSTRUMENTS.

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SECTION (A) MATHEMATICAL DEPARTMENT AND SAFETY LAMPS
SECTION (B) ELECTRICAL DEPARTMENT.

Gold Medal Awarded Mining Exhibition, 1890.

A. B. C. CABLE CODE, 4TH EDITION.

AWARDS: CRYSTAL PALACE, 1890; TASMANIA, 1891; KIMBERLEY, 1892.

CONCENTRATION.

The Clarkson-Stanfield Ore Reduction Co. (Limited).

In the CLARKSON-STANFIELD process of Concentrating Refractory and Complex Ores no water is required; dust is reduced to a minimum; the loss of Mineral through water-borne Slimes is obviated.

OUTPUT ½ TO 2 TONS PER HOUR, ACCORDING TO SIZE OF MACHINE.

CONCENTRATOR TO BE SEEN IN OPERATION AT THE COMPANY'S ONLY ADDRESS,

6, COLONIAL AVENUE, MINORIES, LONDON, E.

The Machine is superior to Sieves for Sizing Homogeneous Substances, such as Emery, Sand, and Powders, and may be used to great advantage in the preparation of Ochre.

N.B.—The owners of the Carndochan Mine, near Bala, North Wales, will, by arrangement, show their CLARKSON-STANFIELD plant working on a Refractory Low Grade Gold Ore.

NEW PATENTS.

LIST of APPLICATIONS for New Patents relating to Mining Metallurgical, Engineering, Railway and kindred matters, specially compiled from official sources for the "Mining Journal" by Messrs. Rayner and Company, Patent Agents, 27, Chancery Lane, London, W.C., who will forward all information regarding them free on application.

8813 Henry Field Bickerton, 84, Barton Arcade, Manchester.—Improvements in gas and oil engines.

8821 Robert Studdert, 57, Barton Arcade, Manchester.—Improvements in rotary engines.

8829 Richard Quigley, 9, New Broad Street (Manchester), London.—An improved wind motor.—April 27.

8835 Benjamin Howarth Thwaite, 29, Great George Street, Westminster.—Improvements in tubulous steam generators.—April 27.

8873 Karl Sundkvist, 47, Lincoln's Inn Fields, London.—Improved water heater for low-pressure or condensing steam engines.—April 27.

8880 Robert Gray Morton, 87, St. Vincent Street, Glasgow.—Improvements in steam engines.—April 28.

8891 David Robertshaw, Commercial Street, Halifax.—Improvements in the means or method of governing and regulating steam engines.—April 28.

8911 David Young, 11, Southampton Buildings, Chancery Lane, London.—Improvements in explosion engines.

8944 Henry Harris Lake, 45, Southampton Buildings, Chancery Lane, London.—Improvements relating to the purifying and refining of iron and apparatus therefor.—April 28.

8949 Darwin Almy and Frank Delano Almy, 45, Southampton Buildings, Chancery Lane, London.—Improvements in automatic feed-water regulators for steam boilers.—April 28.

SPECIFICATIONS PUBLISHED.

2245, De Ferranti, steam, &c., engines, May 2, 1895; 4641, Wight and others, engine valves; 5536, McPhail, steam generators, May 2, 1895; 4806, Morison, steam boilers, May 9.

The above specifications published may be had of Messrs. Rayner and Co., 27, Chancery Lane, London, at 10d. each, including postage.

A COAL-CUTTING MACHINE.—A "curving" machine has been tried at Backworth Colliery recently, and is also being experimented with at Ashington Colliery, in Northumberland. At both places the results have been regarded as eminently satisfactory, and as far as Backworth is concerned it is a permanent institution. The greater portion of the hewer's time is absorbed in "curving" out the coal preparatory to blasting it down. It is slow, hard work, and the efforts at improvement have hitherto been unsuccessful. The construction of the machine is not at all intricate. Its chief feature is a wheel of about 10 feet in diameter, placed in a flat position on a small carriage, and driven by compressed air. The edge of the wheel is fixed with two sets of knives or teeth, which, as it revolves, cut out the coal, or stone, as the case may be. The carriage is placed on rails which run along the face of the coal. The machine is drawn forward by means of a small wire rope attached to a drum. It curves out 5 inches of coal, or stone, to a depth of 4½ feet or 5 feet, and accomplishes from 50 to 90 yards along the face in a single day. Two men are required to attend to the rails and one man for the machine.—*The Colliery Guardian.*

— The secretary of the ISLE OF MAN MINING COMPANY (LIMITED) has sold 100 tons of this company's ore at £9 9s. 6d. per ton.

JOINT-STOCK COMPANIES.

NEW REGISTRATIONS.

THE following are among the joint-stock companies registered at Somerset House since our last notice:—

Consolidated Waterworks Company of Rosario (Limited).—Registered May 4, by Ashurst, Morris, Crisp, and Co., 7, Throgmorton Avenue, E.C., with a capital of £245,000 in £10 shares. Object: To adopt and carry into effect an agreement expressed to be made between the Rosario Waterworks Company (Limited) of the one part, and this company of the other part, to acquire the benefit of the Rosario water concession or any modification thereof to supply the town of Rosario in the Province of Santa Fé, in the Argentine Republic, and the neighbourhood thereof with water; to deal with the same in such manner as the company shall see fit, and to carry on the business of a waterworks company in all its branches. The first directors—to be not less than three nor more seven—are John Morris, Frederick S. Isaac, Reginald J. Neild, Ross Pinsent, and Frederick Charles Wm. Thurm. Qualification, 50 shares. Remuneration, £1000 per annum, divisible Registered office, 52, Moorgate Street, E.C.

Golden Globe Exploring and Finance Syndicate (Limited).—Registered May 4 by Sheffield and Co., 23, St. Swithin's Lane, E.C., with a capital of £50,000, divided into 49,750 ordinary shares of £1 each and 5000 deferred shares of 1s. each. Object: To adopt and carry into effect an agreement expressed to be made between R. L. Rylance of the one part, and this rights, grants, leases, claims, concessions, options of purchase, metalliferous land, &c., in any part of the world; to develop and turn to account such property or company of the other part; to acquire any mines, mining, water, and other any other which may from time to time be acquired by the company, and to carry on the business of a mining, milling, smelting, and metallurgical company in all or any of its branches. The number of directors is not to be less than three nor more than seven; the subscribers are to appoint the first. Qualification, £100. Remuneration, £150 each per annum; £50 extra for Chairman and a share in the profits.

Wearmouth Coal Company (Limited).—Registered April 28 by Jordan and Sons (Limited), 120, Chancery Lane, W.C., with a capital of £500,000, in £5 shares. Object: To acquire, by purchase or otherwise, as a going concern, the business and undertaking of the Wearmouth Colliery Company (Limited)—the same being situate near Sunderland, County Durham—upon the terms of an agreement expressed to be made between the Wearmouth Coal Company (Limited), and the liquidator thereof of the one part, and the present company of the other part; generally to carry on business as colliery owners and workers, ironmasters and manufacturers of and dealers in iron, steel, gas, bricks, coal, tiles, culm, cinders, &c. The number of directors is not to be less than three, nor more than six. The first are T. Chilton, C. W. Bell, G. C. Fisher, J. H. James, W. Stobart, and F. Stobart. Qualification, £5000. Registered office: Wearmouth Colliery, Monkwearmouth, Durham.

New Zealand Talisman Gold Mining Company (Limited).—Registered April 30 by Carpenter and Thompson, Broad Street House, E.C. Capital £150,000, divided into 150,000 shares of £1 each. Objects: To adopt and carry into effect an agreement made April 11, 1896, between the London and New Zealand Exploration Company (Limited) of the one part, and George Holbrook, on behalf of this company, of the other part; for the acquisition of the leases of certain mining lands situate in the colony of New Zealand, and known respectively as the Talisman and Bonanza; to turn to account the same in such manner as the company shall see fit; and further to acquire any mines, mining, water and other rights, leases, claims, options of purchase, metalliferous land, &c.; to develop and turn to account the same; and to carry on the business of a mining, milling, smelting, and metallurgical company; to construct, maintain, and work rail and tram roads; to despatch prospecting and exploring expeditions; to develop the resources of such lands, other property as may be acquired by clearing, draining, farming, planting, and building thereon; as builders and contractors, farmers and graziers, stock raisers, shipowners, storekeepers, &c.

New Zealand Pioneers (Limited).—Registered April 2 by Fell and Armstrong, 46, Queen Victoria Street, E.C., with a capital of £10,000 in £1 shares. Object: To acquire any mines, mining, water and other rights, grants, leases, claims, &c., in New Zealand or elsewhere, and to develop, work, and turn to account the same, Table A mainly applies

British Gold Fields (Limited).—Registered April 25 by Hind and Robinson, 8, Stone Buildings, W.C. Capital £50,000, divided into 50,000 shares of £1 each. Objects: To adopt and carry into effect an agreement expressed to be made between the British Gold Fields (Limited) (the old company) and the liquidators thereof of the one part, and this company of the other part, for the acquisition of the business and undertaking of the said old company, and to deal with the said property in such manner as the company shall deem expedient, and further to acquire any mines, mining, water, and other rights, grants, leases, claims, concessions, option of purchase, metalliferous land, &c., to develop and turn to account the same in such manner as the company shall see fit, and to carry on the business of a mining, milling, smelting, and metallurgical company in all or any of its branches, to construct, maintain and work rail and tram roads, to employ and dispatch prospecting and exploring expedition; to develop the resources of such lands, farms, States, and other property as may from time to time be acquired by the company by clearing, draining, farming, planting, and building thereon; as builders and contractors, farmers and graziers, stockraisers, shipowners, storekeepers, &c.

Consolidated Anthracite Collieries (Limited).—Registered March 31 by Alfred George Coleman, Tower Chambers, Finsbury Pavement, with a capital of £50,000, divided into 50,000 shares of £1 each. Object: To acquire any mines, mining rights, grants, leases, concessions, water rights, land, timber, &c., in the United Kingdom or elsewhere, to explore the same, and to carry on the business of colliery proprietors in all its branches; to construct and maintain rail and tram roads, watercourses, waterworks, dams reservoirs, &c.

CONTRACTS OPEN:

FOR MINE, QUARRY, RAILWAY, AND ENGINEERING WORK, STORES, &c.

**** We shall be obliged by being promptly placed in possession of particulars regarding contracts open for competition, and of the results of successful tenders. In the latter case contract prices should be given.*

The date given is that by which tenders must be delivered, in nearly all cases further information can be obtained on application at the addresses given. In applying for such the name of "The Mining Journal" should be mentioned as the original source of the information, concerning which further particulars are required.

HOME CONTRACTS.

Mains, May 20 (*Brighouse*).—For the supply of water mains for the Corporation. Forms of tender and particulars of Mr. J. Parkinson, town clerk Tenders to the Town Clerk by 20th inst.

Shaft, May 25 (*Tredegar, Mon.*).—For immediate sinking and completion of a winding shaft in the Rhymney Valley at a point as near as practicable to the Brecon and Merthyr Railway, for the Tredegar Iron and Coal Company (Limited). Specifications, drawings, and full particulars may be inspected and copied at the company's office at Tredegar, where also forms of tender may be obtained. The contractors must undertake to purchase from the Tredegar Company at fixed rates any materials which the company is able to supply.

Waterworks, May 23 (*Paris*).—Several contracts for pipes, a reservoir, pumping-station machinery, and iron construction work, &c., in the neighbourhood of Paris. Applications to Monsieur le Prefet de la Seine, at the Prefecture, Paris.

Well, May 23.—*Towcester.*—For the construction of a well and tank, and for providing and laying about 2000 yards of 3 inch and 2 inch cast iron mains and other works, for the Towcester District Council. Plans and specifications may be seen at the offices of Mr. Wm. Whitton, clerk, Town Hall, Towcester, or on application to Mr. John Hunson, C.E., Northampton, on and after 11th inst.

Steam Road Roller (*Atherton, Lancs.*).—For the supply of a steam road roller of 10, 12½, or 15 tons weight, for the Urban District Council. Full description of the rollers offered to be sent with tenders to Mr. D. Schofield clerk, Atherton, near Manchester.

THE GUNNISON GOLD BELT, COLORADO.

(BY OUR OWN CORRESPONDENT.)

THE writer has just returned from a tour through the southern end of the new Gunnison gold belt, such southern end comprising a territory of about 35 miles long, extending from the Cochetopa River on the east to the Cebolla River on the west, with an average width of about 15 miles, commencing some miles south of the Gunnison River. This portion of the belt, therefore, represents an area of about 400 square miles, but as yet has only a little over 500 population. Its average altitude is about the same as the Hospice of St. Bernard in Switzerland—viz., upwards of 8000 feet, but is much milder in climate, as proved by the fact that for years past it has been utilised as a grazing country, cattle and horses wintering there without shelter or other food than they can forage for themselves.

Gunnison City is 290 miles from Denver *via* the Denver and Rio Grande Railroad and 200 miles *via* the Denver, Leadville, and Gunnison Railroad. All parts of the southern end of the gold belt can be reached by stages running daily from Gunnison City. The writer was accompanied on his tour by Professor Arthur Lakes, for many years Professor of Geology at the Colorado State School of Mines, and also by an assayer and mineralogist. The trip in the district itself, after leaving Gunnison City, occupied eight days, and involved driving more than 100 miles in special wagons, so as not to be dependent on the public stages in order to get to the mines. Practically every prominent mine and many of the prospects were visited, and a full line of samples taken, which, on being submitted to one of the leading assayers in Denver, showed values ranging from a few dollars up to $152 per ton in gold.

The southern end of the belt as a gold-producer is not more than two years old, and is colonised mostly by miners, who were thrown out of employment in silver districts when the demonetisation of silver, and the consequent fall in the market price of silver closed down the silver mines. They are not men of financial means. Having only experience and muscle for capital, they have prospected the country pretty thoroughly by holes of 10 feet or more in depth, and further progress now practically depends on the rate at which capital comes in. There has been very little said or written about this district, but practical mining men from other counties with capital have already taken hold of properties in various localities with very satisfactory results.

Near Iris is the Mineral Hill group, the history of which presents a valuable lesson for English investors if they will only learn it. Last summer two prospectors found and followed an outcropping, sunk on it, found vein of gold-bearing free milling quartz, pushed the work, exhausted their means, were unable to procure the necessary hoisting plant, stamp mill, &c., got financially embarassed, and finally the property was attached for debt. The property was submitted to one of the leading and most experienced and successful mineowners in the San Juan region, who, after careful investigation, acquired it, consisting of a group of eight full claims or about 80 acres of ground, for nominal cash payment, formed a private company, giving the original owners some stock therein in completion of purchase, erected fine hoisting plant, sunk new shaft 175 feet deep, 1000 feet of drifts on a vein of white, gold-bearing, free milling quartz of an average width of 5 feet, erected 20 stamp mill, also pumping plant in connection with the stamp mill. The total cash invested, so far, is £12,000 sterling, and the results are over 50 men at work, and 70,000 tons of ore practically in sight, which can be mined and milled at a cost not to exceed 12s. per ton, leaving an average net minimum profit of £2 per ton, or £140,000 sterling net now in sight for an outlay of £12,000, to say nothing of the further extension of the veins not yet opened up. Compare this proposition with the inflated prices recently paid by English companies for single claims in Cripple Creek, say £20,000 each, where the geological formation is very much of a lottery, and overlapping claims tend to litigation. Yet the San Juan mining man, who has developed the Mineral Hill group, personally informed the writer that within a radius of several miles of the property, there are dozens of claims belonging to more or less impecunious prospectors, where the surface indications now are even better than were those of the group when he took hold of it, the inference being that a similar judicious expenditure of capital would produce similar satisfactory results on these undeveloped claims.

Without dealing in detail with each district visited, it may be stated that Iowa capital is operating the Iron Cap Mine, near Spencer, 115 feet deep; and the Dubois Tunnel, at Dubois, already in 290 feet. Colorado Springs capital has secured and is developing a number of properties near Talifaro. A prominent mining man of many years' experience in the San Juan region has obtained bonds and leases on mining properties near Cochetopa and also on Goose Creek. Missouri capital is developing a property in Kezar Basin. One of the most successful mineowners from Aspen has taken hold of and is operating a mine near Spencer, already 250 feet deep. On Carpenter Hill a company has 16 claims, comprising a dyke of free-milling mineralised eruptive granite 300 feet wide and already traced for 1800 feet in length, said to carry 16s. to £4 per ton in gold. There are numerous shafts, open cuts, &c., on the top of the hill exposing the ore matter, but it is proposed to tunnel in 1000 feet several hundred feet down the steep slope of the hill and tram the ore down grade to a point on the Cebolla River less than a mile distant, where there is ample water and where a large stamp mill will be erected as soon as practicable, which will admit of 24s. ore being mined and treated at a profit. The apparent vast extent of the ore body will make this one of the big mining propositions of the State. The capital in this company is from Cripple Creek, New York, and Paris.

The fact that men of the above experience and capital are taking hold of properties and investing their own money in development work in a business-like way and with encouraging results is a high testimony to the probable richness of the new district. For every claim taken by such men there are twenty others, apparently equally good, remaining in the hands of the original locators, who, not having the means to proceed further with development work, are willing to sell their claims for very moderate sums, or to give a controlling interest to any one furnishing capital for a specified amount of work.

Apparently, the belt now only needs men with capital to become a considerable gold-producer, and investors seeking mining propositions "on the ground floor" cannot do better than investigate this entire district personally, satisfying themselves thoroughly before taking hold anywhere. During our tour we met several parties who, after inspecting Cripple Creek, had been disgusted with the high prices asked there, and having come to the Gunnison gold belt were satisfied with the general outlook, and were wisely investigating leisurely and thoroughly before selecting.

The writer, together with Professor Lakes, will shortly make a similar tour through the northern end of the belt, extending through Onio City, Pitkin, and Tincup to Taylor Park, the altitude ranging from 8000 to upwards of 11,000 feet.

THOMAS TONGE.

THE CRYSTAL LAKE MINING AND MILLING COMPANY.

THE following described claims are the property of the Crystal Lake Mining and Milling Company:—No. 1. Crystal Lake Placer Claim, known as lot No. 4078, Surveyor General's office, embracing a portion of sections 20, 28, 29, and 30 in township 11, south of range 81 west, sixth principal meridian in Red Mountain District, Lake County, Colorado, and containing 100 acres.—No. 2. The Avalon Lode Claim, situate north-east quarter of section No. 19, township No. 11, south of range No. 81 west, sixth principal meridian containing 300 feet by 1500 feet, known as lot No. 6728 of Surveyor General's office.—No. 3. The John Wanamaker Lode Claim, known as lot No. 6729 of Surveyor General's office; embracing a portion of section No. 13 in township 11, south of range 82 west, and of section 18 in township 11, south of range 81 west, sixth principal meridian, containing 300 feet by 1500 feet.—No. 4. Also the Challenge Lode Claim, known as No. 6729 in the Surveyor General's office, on Crest of Hogback, between Hayden Gulch and Echo Cañon, beginning 542 8-10 feet from No. 1 corner of John Wanamaker Claim, thence south 61° 5′ east 348.8 feet; thence south 59° 37′ west 1500 feet; thence north 61° 3′ west 348.8 feet, and north 59° 37′ east 1500 feet to the place of beginning.

The Wanamaker, Challenge, and Avalon Lode Claims are located on the south-western slope of Mount Elbert, the second highest mountain in Colorado, it being 14,346 feet high, and is directly in the Gold Belt, which runs in a north-east and south-west direction, near Twin Lakes, Lake County, Colorado. This gold belt or zone passes through Boulder, Gilpin, Clear Creek, Park, Lake, Chaffe and Gunnison Counties, and on it are located the richest gold-producing mines in the State. Mount Elbert is distinctly a gold formation; numerous porphyry dykes run north and south through the mountain, with cross veins of oxidised quartz crossing the dykes every few hundred feet.

These claims are about 2½ miles from Lake Creek, and the main wagon road from Granite to Aspen. The Crystal Lake Placer is located at the foot of the mountain at the junctions of Lake Creek and Hayden Gulch and Echo Cañon, down which flow from the gorges large streams of mountain water. It contains 100 acres and extends 1 mile along Lake Creek.

Near the centre of this property is the Natural Falls, which, with the water from Lake Creek, Echo Cañon and Hayden Gulch, will furnish at least 2000 horse-power, which will be utilised in treating the company's ores. This will be a great saving, as they will not have to use coal. It will also be utilised in running the electric plant, from which the company can furnish power to the numerous mills in the vicinity. Below the falls on the lower or east end of this property is about 30 acres, admirably suited for a town site, for which purpose it will, without doubt, be used in the near future. Through it flows the rapid and beautiful stream of limpid mountain water from Crystal Lake. There is abundance of spruce and pine timber on this tract. The wagon road from Granite to Aspen runs the entire length of the Crystal Lake Claim, which is about 13 miles from Granite, on the Denver and Rio Grande and Colorado Midland Railroads, from which place there is a daily line of mail coaches to Twin Lakes. A trolley road will be built over this route in the near future.

Development.

The Wanamaker and Challenge Mines are joined together in the shape of a cross. The main tunnel is run on the Challenge to intersect the Wanamaker vein, which it does, at 765 feet from its mouth. When the Wanamaker vein was reached, a drift was run about 250 feet to catch the ore chute discovered on the surface. At this point a shaft is sunk about 50 feet, and a tunnel about 80 feet from the shaft has been run. A large quantity of rich ore has been shipped from these mines and large quantities are in sight. There is a second tunnel on the Challenge at a higher level, about 235 feet long, from which good paying ore has been shipped. In running the main tunnel on the Challenge several gold veins were discovered, but were not followed nor opened as the object in running this tunnel was to reach and open up the Wanamaker vein. Both of these claims promise to make big gold producers. The Avalon lies below or south of the Wanamaker and Challenge, and is nearer the wagon road. There is a shaft 90 feet deep directly on the vein. With small expense this claim should be developed into a large producing gold mine. There is no plat of ground in Colorado lying more advantageously for placer mining than the Crystal Lake Placer Claim. As said above, it lies at the foot of Echo Cañon, down which rushes a stream of mountain water, emptying into Lake Creek, which flows through this claim. This water can be utilised in washing the gold from accumulations of the 50 to 100 feet of the gravel, or denudations which have been washing down from the sides of this canon for long ages. Several large gold properties are now being operated on both sides of Echo Cañon. Altogether there are about 1800 feet of tunnels and shafts on these claims.

RAND OUTPUT FOR APRIL.

THE gold crushings at Witwatersrand for the month of April were 174,518 ounces. This shows an *increase* of 466 ounces, as compared with the previous month's total, and a *decrease* of 11,805 ounces, as compared with the corresponding month of last year. The following table gives crushings to date:—

	1891	1892	893	1894	1895	1896
	Ozs. dwt.	Ozs. dwt.	Ozs.	Ozs.	Ozs.	Ozs.
January ...	53,205 15	84,560 8	103,374	149,814	177,453	148,178
February ..	50,079 2	86,649 8	93,252	151,870	169,295	167,018
March	52,949 1	93,244 11	110,474	165,372	184,945	173,982
April	55,871 16	95,562 8	122,053	168,745	168,323	174,518
May	54,673 1	99,436 6	116,911	169,773	194,581	—
June.....	56,868 1	101,252 3	122,907	168,162	190,941	—
July	54,924 10	110,279 1	126,169	167,953	193,453	—
August ...	59,070 4	102,322 3	136,069	174,977	193,573	—
September	65,601 5½	107,851 13	129,585	176,707	194,784	—
October ...	72,793 8	111,167 8	138,599	173,978	192,692	—
November	73,393 15	106,794 15	133,643	175,304	195,118	—
December	80,312 11	170,748 17	146,357	182,104	178,478	—
	729,237 2½	1,120,868 1	1,478,473	2,102,459	2,277,735	663,696

THE ASSOCIATION OF MINES OF THE SOUTH AFRICAN REPUBLIC notify through their London agents, the Robinson South African Banking Company (Limited), that for the month of April an output amounting to a total of 33,510 ounces was obtained by the following companies:—Roodepoort United Main Reef Gold Mining Company, Meyer and Charlton Gold Mining Company, Princess Estate and Gold Mining Company, Van Ryn Gold Mines Estate Company, George Goch Amalgamated Gold Mining Company, Wemmer Gold Mining Company, Langlaagte Estate and Gold Mining Company, Block B. Langlaagte Estate Gold Mining Company, Lancaster Gold Mining Company.

SAFETY APPLIANCES IN MINING.

By HARRY A. LEE, COMMISSIONER OF MINES.

BULLETIN NO. 1 OF THE COLORADO State Mining Bureau.

(*Concluded from page* 593.)

Dump Guards.

At the end of each dump track, when a car is used, there should be a device to prevent the car going over, whether the load clears or not. It is generally supposed that a trammer can let go, but records show that while some do, the majority go over the dump with the car.

The Shaft Collar.

The shaft collar must be covered and so arranged that persons or foreign objects cannot fall in the shaft. When a cage is used, a bonnet which raises with the cage and falls back to place when the cage goes down, must be arranged. This bonnet or shaft cover need not be tight beyond what would stop a small animal from falling in, but the cage in turn must be supplied with a steel bonnet, oval in shape if solid, and if divided in the middle and hinged at the sides to admit sending down long timbers, the angles of the sides must not be less than forty-five degrees, nor the steel less than three-sixteenths of an inch thick. When a bucket and wooden doors are used, the shaft must be housed in and covered with doors which stand at an angle not less than forty-five degrees pitch, hinged at the lower corners and opening upward or outward. These doors should not be less than four inches thick.

Stations.

All stations should have a passage-way around the shaft, so that crossing over the working department can be avoided. Where flat doors are used, a guard rail must be kept in place across the shaft and in front of the level, so that it will stop anyone walking or pushing a truck or car into the shaft. Across the track at some convenient distance an obstruction should be placed, so that cars or trucks cannot run by it and into the shaft, or trammers push cars by without removing same.

Sinking Shafts.

Shafts equipped with mechanical appliances must be of at less two compartments, and the timbering kept well up with the work. When sinking, and work upon levels above are being prosecuted at the same time, especial care must be taken to protect men in bottom of shaft by placing close-fitting and strong doors in the working compartment, and covering the ladder compartment with a plat, which will insure protection.

The Ladder Way.

All shafts over fifty feet in depth should be divided into at least two compartments, and one compartment set aside for a ladder way. The ladders should be sufficiently strong for the purpose demanded, and in vertical shafts should have landings at not more than twenty feet apart. The landings should be closely covered, except an opening large enough to permit the passage of a man, and the ladders should be so arranged that by no means could a person fall from one ladder through the opening to the next ladder. The ladders should be firmly fastened and kept in good repair. In incline shafts the landings should pe put in as above described, but a straight ladder on the incline used.

The ladders in "upraises" or "winzes" from level to level should be likewise provided and kept in repair. Winzes or upraises are, after abandonment, very essential for ventilation, and, in case of accident, very essential as a means of escape. Just so long as they are necessary for the one cause and may be needed for the other, they should be kept in repair and ready for use if required.

Mill Holes and Winzes.

All winzes and mill holes running from level to level should be covered or surrounded with guard rails, so that persons walking along cannot step or fall in. Winzes, as a rule, are upon one side of the main drift, and usually timbered a few sets above the drift level. Guard rails are easily placed about these. Mill holes, on the other hand, are often in the centre of the drift. These must be securely covered with a door and kept covered.

Exits, Ventilation, Sanitary Condition.

As soon as practicable, all mines should have double or triple exits. Levels driven each way from the shaft must be connected by upraises or winzes, equipped with ladders and kept in good condition. These connexions aid ventilation, and provide exits or means of escape in case of accident. Connexions from first levels to surface should also be made, unless underground connexion is made with adjoining properties. Proper ventilation is of such vital importance to mine operators that it is well looked after, as a general rule. The sanitary condition about mines should receive careful attention. The use of abandoned stopes or drifts for closets should not be tolerated, and, where meals are eaten underground, the scattering of scraps and refuse matter about levels or stopes should not be permitted.

At the isolated mine boarding house, arrangements should be made for the disposal of slops and refuse matter. It should be the duty of the foreman in charge to look well to the sanitary condition of the bunk house and the cleanliness of his men. A large proportion of the miners are cleanly, but some are not; and a few filthy men injected into a bunk house soon infect the whole, or cause the cleanly men to quit rather than submit to the filthiness of his enforced associate. The condition of a bunk house is almost a sure index to the class of men employed. A cleanly and orderly condition predicts a thrifty, wide-awake and healthful crew, and *vice versâ*.

The Indicator.

Upon all plants handling men, the engine should be supplied with a positive indicator. By a positive indicator is meant a device that is geared positively to the drum shaft and moves a target or indicator just as certain as the revolution of the drum raises or lowers the bucket or cage. Indicators arranged to move a target by the use of a string or wire cannot be depended upon, and are not as safe as marking the cable with a hemp wrapping or paint.

Mine Visiting.

The desire of persons to go underground, unaccustomed to mines and mining ways, should be discouraged. It is a novelty, an experience to relate to friends at home, but an experience in which the dangers are little appreciated, and of which it may be truly said, "ignorance is bliss." Were it within the province of this Department to say who should and who should not enter mines, the line would be drawn sharply, and no one but employees or those having business would be admitted. Such a law would meet the hearty approval of all large mine operators, who appreciate the danger, trouble and expense to a company to be courteous; while the superintendents of smaller mines, whose better judgment is often overcome by a desire to please, would gladly take refuge and not assume the risks entailed.

Underground Surveys.

Each and every mine should keep an accurate plat of underground workings, and have same brought up to date at least once a month by competent engineers. No greater false economy can be practised in mining than working upon the supposition that those in charge know just where drifts are. Where mines are adjacent, or working upon same vein, and water is encountered, the necessity is apparent and imperative.

Boilers.

The Bill creating the office of State Boiler Inspector makes mandatory provisions regarding the care of boiler or boilers, and necessary reports to inspector. It further provides severe penalties for failure to comply with requirements. Mine operators using steam or other pressure should familiarise themselves with this law and its mandates, and thereby insure the safety of all concerned.

The Mechanical Plant.

In the equipping of a mine with machinery, safety is too often sacrificed to false economy. When the expense of stops and repairs are taken into consideration, the very best machinery of a given capacity to be had, regardless of first cost, is the cheapest. It is well to bear in mind that competition in the mechanical line is so close that skilled labour, iron and steel, have a fixed market value, and that in accepting a plant of a given capacity from one firm, because its bid is $500 or $1,000 cheaper than another firm, the purchaser is simply buying that much less material or skill, and endangering the success of his enterprise.

The Mine Superintendent.

The duties and responsibilities of a mine superintendent cover a scope of requirements unequalled in any other professional calling. One of his most important duties is the formulating of a set of standing orders, the compliance with which will insure the safety of all under him. Fatal accidents can be too often traced to lack of mine discipline. Laws governing the employees about a mine should be as inexorable as in the regular army. Let the fact become established that failure to comply with regulations, however trivial, means loss of position, without recourse, and the safety of all concerned is almost assured.

The Mine Foreman.

The mine foreman is practically the working superintendent, and upon him devolves the detail of practical mining. The welfare of his employers and the safety of their employees is largely dependent upon his good judgment, and he must of necessity be a thorough miner, a good timberman, and a fair mechanic.

The Engineer.

Too much care cannot be exercised in the choice of this officer. His responsibilities are grave, and his work more wearing upon the nerves than the muscles. His cargo travels an invisible track, and must be guided by hearing and feeling. Safety demands that his whole senses be on the alert and concentrated on his work. His surroundings should be comfortable in a room by himself, and under no circumstances should he be permitted to converse with visitors while his engine is in motion. A law should be enacted compelling all engineers to undergo an examination, grading them by certificate according to ability. Engineers upon mines who handle men should all carry first-grade certificates.

Daily Inspection.

All properties using mechanical appliances should be thoroughly inspected and reported upon daily. Some one man should be detailed to perform this duty at a given hour, and make a written report. These reports should be filed and show that proper precautions are being taken. His duties should commence with the engineer, who will report the condition of the boiler, engine, cable, fire apparatus, &c. Then commencing at shieve wheel, and testing all bolts and nuts on boxes and gallows frame. The cable fastenings, and all things connected with cage, bucket, doors or bonnets. Descending shaft slowly, examine the bell line, timbers, lining boards, stulls, skids, rollers, guard rails at stations, doors, &c., &c. He should also ascertain the amount of powder and condition of warmers. Ascending shaft by ladders, the same care as to detail should be exercised. Also the condition of winzes, upraises and ladder-ways, kept open for ventilation and exit in case of accident.

The observance of this provision will prevent accidents and prove economical. It does not debar those in charge from "keeping their eyes open," but they are less apt to see danger than one whose especial duty it is and whose position is dependent upon not overlooking it. This inspection can be made in comparatively short time and at a time not to discommode the working of the mine.

Conclusion.

To those who may feel the above recommendations too exacting, I desire to say there is nothing advised which is not in constant practice upon the older and best-managed mines in the State. Because a mine is not paying is no excuse for jeopardising human life by make-shift or temporary safety appliances. The common rule and the source of most all accidents is the desire to first "strike it rich and then make safe." The desire and duty of this Department is to reverse the rule so it will read: "First make safe, and then strike it rich." Any information desired regarding detail of matters herein set forth will be gladly furnished.

BRITISH GUIANA'S GOLD INDUSTRY.

The following is the amount of gold entered at the Custom House, for shipment by the R.M.S. *Eden*, which left Georgetown on the 16th ult., and the names of the shippers:—

	Ozs.	dwts.	grs.
Colonial Bank ...	1620	19	5
British Guiana Bank	3772	7	1
Total... ...	5375	6	6

Total Value ... $96,151·05

The following are the returns of gold entered at the Department of Mines for the weeks ending:—

	April 11. Ozs.	dwts.	grs.		April 18. Ozs.	dwts.	grs.
Barama	149	14	23	...	282	16	6
Barima	726	2	0	...	700	6	6
Cuyuni	351	4	21	...	901	17	10
Essequebo ...	245	14	14	...	191	17	16
Groete Creek ...	12	1	4	...	3	2	0
Potaro	1317	16	4	...	465	18	10
Puruni	171	13	12	...	54	12	14
Total	2974	7	6	...	2600	10	14

Export of gold from January 1 to April 27:—

	Ozs.	dwts.	grs.	
1896	28,821	1	22	at $513,205·79
1895	31,378	7	23	at $555,008·69

BELGIAN FOREIGN TRADE.—Statistics of the foreign trade of Belgium during the first three months of the year show that the exports of iron and steel totalled 147,267 tons, as compared with 96,906 tons in the first quarter of 1895. The imports in the same period were 128,967 tons, as against 12,856 tons in the first three months of last year. The increase in the exports was mainly due to rails, girders, and sheets.

REVIEWS.

The Gold Diggings of Cape Horn. John R. Spears. (G. P. Putnam and Sons, London and New York.)

This little work is one of the most fascinating we have come across for some time; it tells of an all but unknown country, and tells of it in an unconventional way, which is for all that a most interesting one. It is all the more interesting because the writer has so few of the qualifications that might at first sight be considered necessary to his task. He seems to have no scientific knowledge whatever, not to be a geographer, an ethnologist, zoologist, botanist, geologist, nor mineralogist; we may possibly have misjudged him, and he may have more scientific knowledge than we give him credit for. But if he has, he has concealed it to perfection. The qualification he does possess, however, is worth any amount of book learning; he has the faculty of observing closely and describing accurately, and the man who has this needs nothing else to be a born traveller. As he himself states in his preface, he visited this little-known region as a reporter of *The Sun* of New York, and this paper deserves the greatest credit, not only for the enterprise shown in sending a reporter to such a distant region, but for the acumen displayed in selecting so suitable a man to represent it.

The book is most interesting reading, but to get the full pleasure out of it it should be read side by side with Darwin's journal of his travels in the same region. The comparison of what the great English naturalist saw and what the shrewd keen-witted Yankee newspaper man saw, make the most refreshing contrast imaginable. And where their views are, as is sometimes the case, diametrically opposite, we would not venture to assert that the trained scientist is always right. The worst feature of the book is its title. There certainly is something about gold digging in the first chapter, but not very much. All that we can gather is that there are wonderfully rich placers and especially beach washings along the coast of Patagonia, that these have been known for some 30 years, that a good many men have gone there to try their luck, but that not one of the survivors seems to have come away with anything like the pile of gold which the danger of the work would seem to entitle him to expect. No statistics are given, either of the gold got or of the lives lost, but the general impression that is gathered from the book is that as a gold mining region South Africa, or even Western Australia, is to be preferred to Patagonia. The greater part of the book, as we have said, has nothing to do with gold mining; but we have instead breezy and life-like sketches of the inhabitants of Patagonia, human and others; the chapters devoted to the aborigines of Cape Horn and to the various types of settlers there are especially good, whilst we can confidently recommend the chapter on a Cape Horn mission to all those in the habit of subscribing to missionary societies.

No one who has travelled in out-of-the-way corners of the globe, and who has had an opportunity of studying closely the missionary and his ways, not as he appears on a lecture platform, but among the heathen, to use his own words, whom he has come to enlighten—no one who has seen the missionary and the aforesaid heathen side by side can fail to recognise the innate truthfulness of this sketch. If there are any readers of *The Mining Journal* who support missionary enterprise, we strongly recommend them to buy this book, and to read it. They will enjoy it all; and this chapter on the Cape Horn mission will probably save them money in the future.

Notes on Aluminium and its Alloys. The British Aluminium Company (Limited).

This little pamphlet is being circulated by the British Aluminium Company as an advertisement of their manufactures. It contains a fairly complete and accurate account of the properties of this metal, which is rapidly coming into general use for a variety of purposes. Whilst much care has been taken in describing its physical properties, its chemical characteristics are rather neglected. There are, however, very clearly drawn up instructions for its practical working, for melting and casting, rolling, forging, and otherwise manipulating it. The difficulties experienced in tooling and soldering it, two of the obstacles that have greatly retarded its use in the arts, are referred to. The statement is made that the British Aluminium Company possesses both hard and soft solders that give complete satisfaction, but no information is adduced in support of this bare statement. Especially interesting are some of the alloys here described, more particularly those with tungsten, from which great things have been expected; the proportions in which the different metals are mixed are not stated, but judging from the specific gravities of the alloys, they must contain an extremely large proportion of aluminium. As far as we can see, the various scientific statements seem to be accurate, and the figures given are apparently reliable.

THE INSTITUTION OF MINING AND METALLURGY.—The seventh ordinary meeting of the fifth session will be held on the evening of Wednesday, May 20, in the Lecture Theatre of the Geological Museum, Jermyn-street, S.W., at eight o'clock, when the following papers will be read:—(a) "Estimating and Sampling Ore Reserves, as Practised on the Witwatersrand, South Africa," by Mr. Wilfrid Wybergh (Associate). (b) "Notes on the Treatment of Zinc-box Precipitate ('Slime') from the Cyanide Process, as Practised at the Standard Consolidated Mines, Bodie, California," by Mr. R. G. Brown (Member). (c) Note on a Safety Hook used in California and other Deep Mines of Colorado, communicated by Mr. J. H. Collins (Past President).

TIN PLATES IN THE STATES.—A recently revised list of the tin plate works in the United States shows that there are 31 rolling and coating all or a portion of their own black plates, five works are at present making black plate only, and three plants are in course of erection. These 39 concerns possess an aggregate of 172 black plate mills completed and ready for operation, with 16 additional hot mills in course of building, bringing the present capacity of the American tin plate mills up to about 5,200,000 boxes per year. Of the total of 172, 34 are reported as idle, leaving 138 running.

WESTERN AUSTRALIAN TIMBER.—The Agent-General for Western Australia states that the Government of that colony is very desirous that the extent and excellent character of the hard woods "jarrah" and "karri," which are now rapidly rising in favour for street paving, should be better known. An impression appears to prevail in some quarters that the extent of first-class timber in Western Australia is limited, whereas the forest in which the "jarrah" (*Eucalyptus marginata*) is predominant extend over 200 miles on the ranges, between the 31st and 35th parallels of south latitude, and cover over 14,000 square miles of country, while the "karri" (*Eucalyptus diversicolor*) prevails over a further area, exceeding 2000 square miles, between the 34th and 35th parallels of latitude. Timber of the same good quality occurs throughout the whole belt, and the supply is practically inexhaustible.

COAL IN RUSSIA.—It is reported that some important deposits of brown coal have recently been discovered in South-West Russia near the Fastov Railway, and that a company is being formed in St. Petersburg to open up and work the same.

100 tons of ore belonging to the ISLE OF MAN MINING COMPANY (LIMITED) were sold on Thursday at £9 11s. 6d. per ton.

THE "JAMES FORREST" LECTURE.

"Physical Experiment in Relation to Engineering."

By Dr. Alexander Blackie William Kennedy, F.R.S., M.Inst.C.E.

(Delivered at the Institution of Civil Engineers at the meeting on May 7, John Wolfe Barry, C.E., F.R.G., Vice-President, in the chair.)

(*Concluded from page 590.*)

A PHYSICAL experiment such as is necessary for the determination of any one of the physical constants which we have in continual use differs very essentially from such physical experiments as we engineers have to carry out in the course of our own work. It is at once much simpler and much more difficult. It is simpler because its object is the solution of one certain problem, which has been by much care and pains isolated from all its surroundings, from all related and, so to speak, adjacent problems. The first work of the physicist, dealing with his problem, is, in fact, to find out a way of so isolating his question that its solution may give him exactly the one quantity he wishes to know and no other. Of problems of this kind I confess I speak as an outsider, but as an outsider it has been to me often a matter of the greatest interest and even wonderment to see what enormous pains a physicist takes, and must necessarily take, to make sure that he is measuring exactly the thing he wishes to measure—that thing, that whole thing, and nothing but that thing; to see also what innumerable precautions he has to take to ensure the absence of minute errors, or to find out where any such errors might occur, and whether they have occurred, and to evalute them if they are unavoidable. I have found, too, that in such cases suggestions derived from my own experience in engineering experiment have been often received with a coldness which I am afraid was no more than they may have deserved! For, as I shall endeavour to show the conditions under which experiments of this kind have to be made are absolutely different, both as to aim and method, from those of the experiments—more technical if not less physical—which we have to carry out for ourselves in our own work.

In a physical experiment of the second category, such as those of which I have been speaking, the primary points may be said to be—first, that the object of the experiment should be single, definite, isolated, separable and separated from all surroundings; secondly, that it should be general in its nature, and should not relate merely to one special case; next, that as a problem it should be capable of exact determination; and lastly, that the final result should be as nearly absolutely accurate as it is possible for any physical determination to be. Take as example such matters as the determination of the density of steam, of the variation of the specific heat of water with change of temperature, of the calorific value of pure carbon, or of the mechanical equivalent of heat. Such problems properly stated admit each of one exact solution, one answer which is absolutely right, even in the mathematical sense of that phrase. It is the highest object of the physicist, in dealing with such a problem, to obtain the right solution. He spares no pains to obtain it, he determines each minute correction with the patience and care of a man who knows that the value of his whole work may be vitiated by a single overlooked source of error, even of the smallest magnitude. We engineers are possibly in some danger of forgetting occasionally, in view of the familiarity and matter-of-courseness, of certain figures with which we have frequently to deal, that just these everyday and familiar numbers, on account of their very importance, were those which required and obtained for their determination the most careful, exhaustive, and accurate experimentation in the hands of the most experienced physicists.

After speaking in this fashion of the nature of experiments in pure physics, it may sound at first absurd, but it is, nevertheless, true to say that physical experiments in the third category—the technical experiments which we engineers have so often actually to carry out—do not fall under a single one of the conditions which I have just given as characteristic of experiments in pure physics. We cannot, even under the most favourable circumstances, put before ourselves exact and isolated problems; we have much more often to deal with special than with general cases; we cannot choose problems which are capable of finally exact solution; and, therefore, lastly, we should treat the matter entirely wrongly if we attempted to obtain more than a certain limited degree of accuracy in our solution—an accuracy very limited indeed when compared with the all but mathematical accuracy with which problems in pure physics can be solved.

The conditions under which engineers have to carry out physical experiments, of course, vary very greatly. In certain simple cases they are essentially physical investigations, be it in connection with friction, with elasticity, or what not, which at first sight do not greatly differ from the experiments which I have just discussed. There is probably, however, more difference than appears at first sight, although the spirit in which both sets of experiments have to be made is the same. Take as an example the determination of the elastic modulus (or the specific extension) of a piece of steel. Probably, with very perfect instruments and with extreme care in manipulation, a value of the modulus could be obtained which should be accurate, say within 1 in 2000, for that particular piece of steel. But a figure so obtained would not be accurate even for other pieces of steel made at the same time, and out of the same ingot as the one experimented on; while, of course, there is no one absolute value for the modulus of elasticity of the widely-differing material of which all sorts go by the name of steel. Under such conditions—and I have chosen a particularly favourable example—it would be mere affectation, and, in addition, would be actually misleading, to claim anything like physical accuracy for our results. Indeed, I must go further and say that the truly scientific way of treating an experiment in engineering physics is to recognise from the outset its limitations as to accuracy, and to be careful not to state a final result in a form which should lead to the supposition of any greater degree of accuracy than that which the conditions of the work can actually allow.

The difference between physical and technical experiments may easily be illustrated by another example from the region of elasticity. The determinatian of the deflection of a beam, transversely loaded, as a physical experiment would resolve itself into the test of the behaviour of a piece of homogeneous material, preferably of the simplest possible cross section, probably rectangular. It would be a matter of importance to ensure that the material was exactly of a certain chemical nature, and that it was mechanically free even from the slightest defects; it would also have to be machined to certain exact dimensions. Even with every care, the almost unavoidable imperfections in the material, minute variations in uniformity of structure, and so on, would be very difficult to deal with and to allow for. As a technical experiment, on the other hand, the beam might consist of plate and angle irons secured together by rivets, the whole forming a structure with absolutely no pretence to homogeneity, nor to absolute exactness of dimension. Its rough

surface would be carefully left intact, and not in any way machined, its riveted parts would be brought together as well as was reasonably possible with the appliances at the command of the engineer, but without any attempt to make a special fit between surfaces. In fact, the whole thing would be constructed in imitation of the way in which a riveted beam, such as is used as a girder, is usually made. The result obtained would obviously not be a general one applicable to steel as a material, or to beams as geometrical form, because the data of the problem, even the dimensions of the beam itself, could not be determined with minute accuracy, nor would the actual final result be comparable in accuracy with the determination of the similar problem treated from the purely physical point of view. Hence, as the experimenter cannot for a moment pretend, and should not for a moment delude himself into supposing, that his results could be more accurate than his data, it is his first duty in this line of work to find out within what limits of accuracy his experiment can be carried out, and when he has obtained his results, to state it only within these limits. Under these conditions the statement of a result in round figures is often much more accurate than its statement down to the last decimal place which appears in arithmetic. I have heard it said by some of the students of the greatest of our physicists, Lord Kelvin, that this was a point upon which, even in a great deal of purely physical work, their master always insisted most strongly. But I am afraid that it must be admitted, as a weakness of much of our engineering experimentation, that its results are given in figures which are absolutely ludicrous as indicating the value of the quantities actually measured. In these matters, perhaps, our friends in America are even worse than we are, and those of us who have anything to do with steam vessels or with steamship trials are, perhaps, the worst sinners. I suppose no physical problem could very well be much more complicated than that (I ought rather to say those) involved in the carrying out of a marine engine trial at sea, especially when power and speed are both concerned. When it is considered that the final result depends on the accuracy of our knowledge of the dimensions of the steam engine itself, and of the steam engine indicators, on the uniformity of elasticity and proper scale of the indicator springs, the accuracy with which the revolutions are observed, the accuracy of timing on the mile and of observing the distance at the same time, to say nothing of the assumption that the indicators themselves and their gear, unlike every other thing in the universe, are entirly devoid of hysteresis, it will be seen how entirely out of the question it is that the figures obtained, even for a single run in one direction, should admit of statement in (say) more than three figures. When to this is added the uncertainty of the method of averaging speed as between a number of runs under different conditions as to tide and wind, the matter becomes still more striking. Or, when coal and water are also to be measured, and the weighing or measuring of both, and the calibration of all the heavy apparatus used for the purpose, as well as the personal errors due to making observations of large quantities under awkward physical conditions, in a minimum of time and in the worst of atmospheres, are considered, the uselessness and, indeed, the absolute inaccuracy of extremely minute figures become absolutely glaring. It is sometimes useful, no doubt, under these conditions, to work out results to four significant figures for the sake of mere arithmetical checking; but no one who has had anything to do with the matter would suppose for a moment that more than three figures were of the least importance, and the statement of results of observations in five or six figures merely causes the enemy to scoff. Let me again say here that I am not suggesting, and I do not think that an experiment of a technical nature is unscientific because its result is only capable of expression within 1 or 2 per cent. instead of within one or two hundredths per cent. I wish only to urge very strongly that in a really scientific spirit such an experiment must be undertaken only with a distinct recognition of its limitations, and of the limitations of accuracy of result such as I have roughly indicated.

But I must claim for technical experiment that it is truly scientific work if only it be conducted with full recognition of its conditions and limitations, and not as if it were a laboratory experiment badly done—a mistake which I fear is too often made. Let it be recognised first of all that our object is generally the determination of certain facts, or quantities, or ratios, which are to be found under certain very complex conditions. As I have elsewhere said, the duty of the engineer is to recognise these conditions and deliberately to include certain of them in his experiment. The physicist has to spend much thought and trouble on the modification of conditions, which are disturbing elements in his work. All conditions which might modify his main result, or which might make it difficult for another experimenter to obtain precisely the same value for the quantity looked for, have to be either eliminated or evaluated. The conditions are his enemies, in fact. Otherwise with us, the conditions in general form part of our problem, and for many purposes the reduction of the experiment to its lowest terms, which is the object of the physicist, would not only be impossible, but would, if it could be done, make the result quite useless to us.

The determination of the efficiency of a steam engine is, of course, a very common piece of work, and may serve as an illustration of the two different ways of approaching such a matter in connection with this question of conditions. From the physical point of view, I imagine it would be best to endeavour to reproduce the working of the much-abused Carnot cycle.* If this were absolutely successful, it would merely give us a result which would agree with those which we can already calculate from the physical data which are in our possession, and this result would add nothing to our present knowledge, nor would it give any additional help to the designer of steam engines.† But it would, if it could be carried out, be an experiment strictly physical, and following in the lines of, for instance, Joule's classical experiment on the mechanical equivalent of heat. The engineer, on the other hand, who has to work at the same problem, has to deal with it in the fashion in which it is now handled in so many engineering laboratories. He has to make himself an actual engine, in which the normal conditions of engine working—as to loss of heat by conduction, condensation, radiation, and so on—are, or can be reproduced, and he has to make his experiments on this machine, and as nearly as possible under conditions resembling those under which engines normally do work. Then one by one certain of the conditions may be altered, so that some estimation may be made to the effect of each. So may be obtained figures as the result of *bona fide* technico-physical experiment, which are also in a form more or less directly applicable to engineering work.

I have just mentioned the variation of conditions one by one. This is hardly a matter which I need insist on. It is of great importance even in a physical experiment, where all the conditions are simplified to the last extent; but in a technical experiment, where the conditions themselves are very complex and often not easy to grasp, it is obviously vital. It is, no doubt, one of the great difficulties of all technical experiment to find out exactly what the conditions are, and it may in many cases need more experience and more care to determine and define the actual conditions than it does to carry out the measurements involved in the experiment. This is a matter which will be recognised by every one who has had to do with work of this kind, but about which, probably, it is unnecessary to say more here. Bearing on it, however, is a matter which may fairly be mentioned—namely, the combining of the results of several technical experiments. This is often very tempting, but it is always very difficult. A simple case is, for instance, the determination of the efficiency and of the economy of a steam-engine. A certain experiment may show a certain maximum efficiency; another experiment, on a more or less similar machine, but carried out at another time, may show a maximum economy. Naturally there is a strong temptation to state both maxima as belonging to the machine tested. It is no doubt possible that they may do so; but, on the other hand, without the most minute knowledge of the circumstances of the case, it is quite unsafe to assume that they do, and in this respect the difference between the general character of purely physical work and the special character of technical experiment comes into clear relief.

In fact, it is much more difficult to handle rightly the results of engineering experiment when they have been determined than those of pure physics. It is by no means always, or obviously, easy to apply these last; at least, one has known very ludicrous mistakes to occur through their misapplication. For instance, I have seen elaborate calculations based on the determination of the weight of steam used by an engine from the pressures shown by an indicator card, and the measured dimensions of the engine; and quite recently I was confronted with certain supposed phenomena, which rested entirely on the assumption that a vessel of certain dimensions actually received from a steam pipe suddenly opened to it only the weight of steam corresponding to its volume and the pressure shown by a gauge! In both cases the troublesome phenomena of condensation were entirely left out of account, and the result of a purely physical determination was applied to a technical problem with very disastrous results. But it is infinitely more difficult often to interpret and to apply the results of our own experiments. For instance, let it be found that one boiler, engine, and dynamo together require the consumption of so many pounds of coal per electrical unit, how much coal per unit will another boiler, engine, and dyamo require? Put baldly in this form the question sounds ridiculous. But, after all, is it any more absurd than our constant endeavour—that is, before the days of the present development of engineering experiment—to arrive at similar comparative conclusions from the doubtless unimpeachable figures of an engineering pocket-book? I am sure there must be many of us who can still recollect how painfully we endeavoured to make the statements of Molesworth furnish us with an answer to our own problems, and how entirely we failed to get things to fit in. I do not suggest that the fault lay with the pocket-book; the fault lay in the endeavour to correlate figures and results which in no way belonged to each other, which represented the result of experiments made under conditions quite unknown to us, but certainly varying from each other, and no less from the conditions (possibly also unknown to us) of the problem we actually were trying to work out. I dare say that many of us who have been hungry and thirsty for facts and figures during most of our lives remember very well the joy with which, at a certain stage, we put down in our note-book any kind of experimental results of which we could hear, or of which we could obtain possession by any means, whether they related to steam engine trials, or to girder tests, or to the discharge over weirs; I do not say to dynamo trials, because there were no dynamos in those days! And I am sure that all of us must have suffered pain and disappointment later on when we found how extremely difficult it was to make any use of the much-valued figures that filled our pages; they would never, somehow or other, seem to tell us just what we wanted; there was always something about them which eluded us, one particular matter of vital importance in the data, or in the result, of which we had no memorandum. The fact is that it is always extremely difficult to apply accurately the results of experiments made by others, however carefully made and however accurately described. To realise this, even in reference to purely physical work, one need only see how many pages in the "Philosophical Transactions" are sometimes necessary to describe the methods and precautions involved in a determination which has not one-tenth the complexity of such matters as we are compelled constantly to try to measure.

To anyone who wishes to realise to the full the difficulty of dealing with or applying the very simplest kind of experimental result, I recommend the maddening task, so often lightly spoken of by those who have not tried it, of calibrating indicator-springs, and then trying to apply the results to the correction of the corresponding indicator diagrams.

The fact is that no one can usefully apply physical results who has not himself studied the methods by which these results are obtained, either by the royal road of work in a physical or technical laboratory, or by the hard and up-hill method of self-education in the making of technical experiment, without the advantage of the preliminary training which I have mentioned earlier; and hence the importance of the knowledge of how to make accurate observations, which I have insisted upon as a thing quite apart from the knowledge of the actual figures to be obtained by such observations. It would, perhaps, be cruel to say that no one can usefully apply physical results who has not studied the methods by which they are obtained, were it not that nowadays the possibility of such study is open to everybody. One may, therefore, state the truth in this matter without the fear of making anyone unhappy. I do not know whether I should be far wrong in suggesting that a certain amount, perhaps a great deal, of the very rapid improvement which has taken place in late years in engineering practice in respect to efficiency in the working of machinery, economy in the production of energy, and economy also in the use of material, has been due directly or indirectly, or both, to the growth of the habit and knowledge of experiment among the present generation of engineers. No one who is familiar with the progress in such matters as I have dealt with during the last 20 years, and has noted the extraordinary development which has taken place, can fail to be struck with it. No doubt a considerable part of this development has been due to the better education generally of engineers, and particularly to the great extension of engineering literature, in which undoubtedly the engineering newspapers have played a most honourable and important part. But these general causes in themselves would not, I believe, have been sufficient if it had not been for the contemporaneous development of what I may venture to call experimental training, accompanied by a demand on all hands from inventors, manufacturers, and even from the public, for reasonably exact numerical statements in relation to everything which can be measured, instead of the vague generalities which used to pass muster as critical examination of the advantage and disadvantages of any new proposals.

I hope I need not say here that I quite recognise that an engineer's life is not made of experimentation, and that the work of doing is even higher than that of measuring—at least, from our point of view. But in dealing with my subject I am, of course, bound to take up and emphasise this aspect of engineering work. I hope that it may be considered that I have been able to justify my choice of a subject which at first might appear so limited, but which in reality I believe so important, as that to which I have addressed myself—the relation of physical experiment to engineering.

* I need hardly say that I do not for a moment suggest that any physicist would wish to obtain experimentally a result for which he has already given us all the constants, and which we can, therefore, completely obtain by calculation based on physical results already before us.

† I do not wish here to be understood in the least as sharing that great objection to the Carnot cycle, which I know fills the breasts of some of my friends. It appears to me that it would be just as reasonable to object to the asymptote of a hyperbola or to the line at infinity! We require these limiting cases, and should get on very badly without them, and I am not inclined to say that they are useless—indeed, I think they are extremely useful—although I am perfectly conscious that they represent a state of affairs which is technically, and even physically, unattainable.

THE PRODUCTION OF METALLIC BARS OF ANY SECTION BY EXTRUSION AT HIGH TEMPERATURES.*

Alexander Dick's Patent Squeezing or Squirting Process.

By PERRY F. NURSEY.

THE author stated that the system of manufacture he now had the privilege of bringing before the Institute was the invention of Mr. Alexander Dick, the inventor of Delta metal. It related to the production of all kinds of metallic sections, from thin wire or plain bars to complex designs, by simply forcing metal, heated to plasticity, through a die by hydraulic pressure. He referred to the fact that although the principle of extrusion was employed in the manufacture of lead pipe and lead wire, yet the temperature was very much lower than in Mr. Dick's system, which required the metal to be red hot (about 1000° Fahr.).

Mr. Dick's process consists in placing the red-hot metal in a cylindrical pressure chamber or container, at one end of which is a die. Upon pressure being applied at the opposite end the plastic metal is forced through the die, issuing therefrom as rods or bars of the required section and length. The container of the first apparatus was a solid steel cylinder, bored out to the required diameter to form the chamber for the hot metal, and heated in a coke fire. In practice, however, it was found that the strain set up by the unequal expansion and contraction of the walls of the cylinder, added to that caused by the internal pressure applied to force the metal through the die, developed cracks in the cylinder which rendered it useless.

After a long series of experiments with various kinds of steel cylinders, Mr. Dick abandoned the solid wall principle and devised a built up container. It is composed of a series of steel tubes of different diameters placed one outside the other with annular spaces between them, the spaces being filled in with a dense non-conducting packing. This proved perfectly successful, and machines on this principle are now in operation on a commercial scale, not only at the works of the Delta Metal Company, Pomeroy-street, New Cross, London, S.E., of which Mr. Dick is managing director, but also in Germany and at one of the large Midland metal rolling mills on license.

These machines are served by two men and one boy, so that the cost of labour per ton is very small.

The author described the working of the system, and referred to the great variety of sections (some of a very complex nature) produced in Delta metal, brass, aluminium, aluminium bronze and other alloys and metals, samples of which were exhibited. These ranged from wire weighing about 1-100 lb. per foot run, to heavy rounds, squares, and hexagons weighing 40 lbs. and over per foot run. He pointed out that the pressure put upon the metal greatly increased its strength, and at the same time rendered it still more homogeneous. Some tests made at Woolwich Arsenal with Detal metal bars produced by extrusion showed a tensile strength of 48 tons per square inch, with 325 per cent. elongation on 2 inches, as against 38 tons per square inch tensile strength, and 20 per cent. elongation of rolled bars of the same metal. The author concluded by stating that Mr. Dick was engaged on experiments with a view of producing sections in iron and steel similar to those at present turned out in Delta metal.

* Abstract of Paper read before the Iron and Steel Institute.

MINING NOTES FROM KOOTENAY, B.C.

THE Government of British Columbia has modified the items of its Assessment Bill levying a tax on minerals. As finally passed, the Act imposes a tax of 1 per cent. (2 per cent. was the original amount) on all ore or other produce actually removed from mining premises. In the case of any dispute as to its value, smelters' returns are to be used as settling the question. Although the tax thus imposes is light, and most of the objectionable conditions in the original Bill have been removed, it is felt that the tax is unfair. Representations will, therefore, be made to the Dominion Minister of Justice to disallow this Provincial Act as far as it relates to the taxation of mines, on the ground that it discriminates between quartz and placer mining to the detriment of the former. Quartz mines are taxed on their gross output, while placer miners are allowed to deduct their working expenses being thus taxed on their net returns, which is a very different thing.

THERE are three smelters now hard at work in the Kootenay district—one at Pilot Bay, one at Nelson. The property of the Hall Mines (Limited) and the new works at Trail on the Columbia River have just been satisfactorily started.

THESE three can deal with about 450 tons of ore a day, and the latter two are likely to have their capacity increased very shortly.

THERE are over 40 shipping mines in West Kootenay now. Over 25,000 tons of ore have been either shipped or treated in the country during the current year, and this amount does not include many thousands of tons which have accumulated in the bins of the Trail Creek smelter awaiting its starting. The value of the ore, bullion, and matte exported during January February, and March was $941,395.

DEATH OF A WELL-KNOWN MINER.—The death is announced of Mr. John Nixon, the venerable President of the Northumberland Miners' Association, which occurred recently at his residence in Newcastle. Born three-quarters of a century ago in Northumberland, he started working in the mines at the early age of eight years. Later in life he was successively treasurer, assistant secretary, and President of the association, holding the last position uninterruptedly from 1881 until his death. The deceased President was a hard worker, and greatly esteemed in his immediate circle.

CORRESPONDENCE.

** We wish it to be understood that we do not hold ourselves responsible for, and do not necessarily endorse, the opinions of correspondents. All communications must be accompanied by the names and addresses of the senders, though these need not necessarily be published.*

COMPLETE AND CHEAP GOLD EXTRACTION.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—Mr. Picard in his letter to you of the 9th, expresses a wish for further information on Admiral Selwyn's S_2Cl_2, the Zymean process.

I think I can answer all the points he raises, which I trust will be a matter of interest, not only to himself but to others also.

It is now considerably over a year since I was first shown the process, and at once came to the conclusion that in principle, at all events, it was right. Since that time I have not only watched and studied the process, but have myself on a small scale extracted the metal from many and various sorts of ore, including very refractory ones, without any difficulty.

I have not seen the process worked on a large scale, but from what I know of it, and so far as I have gone, I can foresee no difficulty, only a little necessary practical knowledge. In view of the great expense attending the extraction of metals from their ores under present processes, especially those containing much iron, or when of a refractory nature, and in many cases the almost impossibility of extracting them at all, I have rightly or wrongly formed the opinion that Admiral Selwyn's process is the process of the future.

Answering Mr. Picard's letter in detail:—

I.—It is not necessary to go to M. Camille Grollet's paper to learn that S_2Cl_2 decomposes water into its elements, oxygen and hydrogen, and that this occurring in a saturated solution of salt and water with sulphur present, a chemical reaction takes place in which hydrochloric acid, sulphurous and sulphuric acids, and nascent chlorine in excess are produced.

II.—Sulphur must be present in the one, or, if not, be added in small quantity; this sulphur is recovered and used over and over again, or the excess which there will be when the ore contains sulphur commercially disposed of as a bye-product.

III.—Chlorine is held in S_2Cl_2, but only in very small quantity, whilst in the Zymean process it is produced to practically an unlimited extent. In the first case it would act on the gold in a clean quartz containing gold, but not on the gold in a refractory ore; in the second it acts on all ores, refractory or otherwise.

IV.—The production of nascent chlorine is very great, and what is more, sufficiently great, for so long as there is sulphur present the reaction will continue, and all the metals be extracted.

V.—The metals having been taken into solution as chlorides there is no difficulty and little trouble in precipitating them as chemically pure metals in successive order as wished.

VI.—Mr. Tapp has mentioned a 40 mesh, I imagine, rather to suggest that no great fineness is required; he might, I think, quite correctly have said 30 mesh.

In conclusion, it can hardly be desired that a single process, producing 100 per cent. of all the metals and metalloids contained, is better than any two processes which produce less. It is quite possible that the advocates of cyanding do not see it in that light; but Mr. Picard, the more he is shown that none of his apprehended evils exist in the Zymean process, the more reluctant he is to believe in its merits; he seems, in fact, to occupy the position of the man convinced against his will, or he would be more anxious to obtain the information he seeks by seeing things done—or better, doing it himself.

M. TWEEDIE,
Major-General.

May 11.

THE NEW PETROLEUM SCHEME.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—Numerous paragraphs in the provincial Press containing laudatory notices of this scheme have called public attention to the matter; and so little time is allowed by promoters nowadays to intervene between the issue of a prospectus and the closing of the subscription list that a preliminary discussion appears desirable in the interests of investors throughout the country, especially having regard to the magitude of the proposed undertaking, the share and debenture capital of which is stated to aggregate no less than £1,400,000.

The latest proof of the prospectus has come into my hands, and I propose to offer a few observations upon it from the standpoint of one having a practical knowledge of the petroleum trade. On close scrutiny the objects of the scheme appear to be:—

Firstly, to relieve the vendors at the price of £443,000 of a fleet of 14 tank steamers, many of which are antiquated and can only be worked with a heavy loss at present rates of freight. In order to justify the enormous price to be paid for this fleet, the vendors, who are also the promoters, refer to a valuation made by Mr. J. Fortescue Flannery, M.P., and annex a report by Messrs. Cooper Brothers and Co., showing that these steamers have earned from 1892 to 1895 an annual average of £66,000. But Messrs. Cooper are careful to state that no interest on capital or managers' remuneration and office expenses are charged, and no provision made for depreciation of the steamers. For depreciation alone there should, according to the prospectus itself, be deducted £31,000 per annum, and after managers' remuneration and office expenses have also been deducted, the rate of interest yielded by the capital involved has been exceedingly small for such a class of property.

But even this very moderate result has been obtained by including the earnings of the comparatively good years of 1892 and 1893, when tank steamer freights were much higher than at present. Since then the position has materially changed through the fact that more tank steamers now exist than can be employed in the oil trade, and freights have gone down to such a low level that even the best and newest tank steamers can hardly be run at a profit, and all the older boats can only be run at a loss. As many as about 20 tank steamers have recently been lying idle, including a number of those that are now offered for sale.

In order to form an opinion of the value of these tank steamers, it would have been more to the point if Messrs. Cooper had been requested to state in their certificate what the steamers are earning (or losing) at the present time. I have no doubt that they represent in the aggregate a considerable loss. It appears to me that the promoters are not unaware of this, because the proof-prospectus states that "the earnings of the steamers will in future be merged in the general profits of the company." Seeing that the steamers will represent an investment of £443,000, I should have thought that shareholders would be interested to know whether they were being worked at a profit or a loss.

The second object of the scheme appears to me to be to relieve the vendors from a contract for 160,000 tons of Grosney crude oil made for delivery over two years, which threatens to be an unprofitable one. When the first deliveries of this oil were made at Grosney it was impossible to find any buyers for it, and at last some cargoes were brought to this country and refined here, without regard to the fact that in no other country has the refining of imported oil been found commercially possible except with a protective tariff, which it is hopeless to expect in the United Kingdom. It would be interesting to know the financial results of this operation, which would throw considerable light upon the prospects of the present scheme.

It will be patent to everybody that neither of the objects which I have ventured to attribute to the vendors could have been achieved if the steamers and the crude oil contract had been separately offered to the public. Hence it became a necessity to combine them, and merge them in some grand scheme likely to catch the public imagination. For this purpose options would appear to have been obtained for the purchase of oil fields in Russia and other countries, and these are now included in what is no doubt a gigantic, but at the same time a disjointed, enterprise.

The Russian oil fields at Baku and Grosney to be acquired by the company may be good or may be bad property, but in any case it is difficult to see how Russian crude oil can be used economically to employ the fleet of steamers and feed English and Continental refineries. The cost of transport to this country is the same for crude as for refined oil, whilst fuel in Russia costs almost nothing, and labour is very cheap, justifying the existing practice of refining at the point of production. Moreover, the export of crude oil from Russia may be stopped at any time by the imposition of an export duty which the Russian Government has already foreshadowed for the protection of its own refining industry.

As regards the properties to be acquired in Roumania and Galicia, the geographical position of these countries is such that whatever quantity of crude petroleum is produced there will find a ready market in the adjoining thickly populated countries at much higher prices than exporters could afford to pay. The proof prospectus itself states that the consumption in Galicia greatly exceeds the production. The acquisition of these oil fields is, therefore, really a separate speculation, having no reasonable connection with the employment of tank steamers, and the supply of crude for the refineries. The opinion of the promoters themselves on this point is shown by the fact that whereas the area of the Galician and Roumanian oil fields to be acquired, is stated at 4229 acres, and that of Russian at only 157 acres, they rely on the latter for 200,000 tons out of the total of 250,000 tons which they propose to import for refining in England. In practice they will be entirely dependent on Russia.

If I were not afraid to trespass further upon your valuable space I should be tempted to criticise the estimate of profits in the proof prospectus. I think, however, that I have said enough to show that the investing public should reflect before paying the vendors the £1,120,000 asked for the properties.—I enclose my card, and am, Sir, your obedient servant, M.

May 11.

THE NORTHERN TERRITORY OF SOUTH AUSTRALIA, AND OUR GALLANT MINING MEMBER.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—Your excellent criticism upon the merits of Mr. Pritchard-Morgan's new acquisition in the shape of 5000 square miles of territory in the north of South Australia will doubtless prove interesting as well as useful to all those in accord with colonial enterprise, both mining and agricultural.

You will, therefore, I feel sure pardon the inquisitiveness of one who knows something of Australasia, as well as some other portions of our Majesty's dominions, even if he may insist upon a closer interpretation of what is meant to be conveyed by the heralding of this so-called El Dorado. I take it our mining member (*i.e.*, our M.P. for Glamorganshire) has acquired this extent of country for the formation of a public company.

Of course I shall set aside the money question altogether: that would naturally be a secondary consideration to such a gallant gentleman, in point of fact discourteous to one who is likely to benefit zoological science by the discovery of a race of buffaloes.

In the first place, as some mining enterprises may emanate from this project, would it not be more satisfactory to have experts' opinion from Charters Towers, which is in close proximity to this northern territory, and where also so many competent men reside and are interested in such enterprise, instead of relying on reports from Adelaide, the least important of Australasian mining centres? Possibly Mr. Morgan may have lost taste for the scene of old adventures, but no doubt many of his old friends would be glad to see him back amongst them, and would also be glad to assist him for various reasons.

In regard to your own correspondent's exposition, no doubt his enconiums are well meant, and from his point of view absolutely reliable; at the same time more practical evidence is necessary, seeing also the gist of his report is gathered from hearsay, and at once points to the conclusion he has never visited the northern territory, and cannot, therefore, speak with that authority which is necessary to warrant your giving colour to the belief that much interest can attach to the intrinsic value of such an acquistion.

I shall now deal with the agricultural position. In regard to sugar cultivation, it was tried 16 years by Mr. De Lissa, and proved a failure, owing mainly to the ravages of the white ant. Of course, many improvements have since been introduced in the growth and manufacture of sugar, but if we cannot succeed in growing the sugar cane, it would be more to the point to discover a remedy against the white ant, or the periodical visits of the locusts, whose ravages are more sweepingly devastating whilst the plague lasts. As to rice cultivation, that involves the introduction of the Oriental, without which, except under very exceptional circumstances, resulting in a bare existence, it has never proved a success.

As to coffee, tea, &c., North Queensland could grow all that, and in point of fact anything tropical or sub-tropical, but it must be borne in mind the situation must be chosen with care and judgment, and seeing that tropical industries, principally sugar cultivation, have already been successfully established there, it would be idiotic to suppose the northern portion of South Australia, which is still more tropical, would not as yet have been tapped successfully had there been anything tangible to go for.

In my opinion all that is left is the Buffalo. Why not cooperate with the Wild West Buffalo Bill, forsooth! Would it not make things hum if Colonel Cody were to turn his attention to Port Darwen? Here is a suggestion; some of your correspondents may work the oracle. At the same time it would be highly interesting and no doubt of public advantage if Mr. Morgan would only favour us with a physiological description of the animal, as there are so many different kinds of buffaloes, from the Indian drudge to the free lance, that claims the forest as his own.—Yours truly, DONALD STUART.

London, May 13.

HEIDELBURG GOLD DISTRICT, SOUTH AFRICA.

TO THE EDITOR OF "THE MINING JOURNAL."

DEAR SIR,—This gold district is rapidly coming to the front as a permanent gold producer, and ere long it will be second to none in the Transvaal. On numerous claims gold reefs are being proved, and although several ounces of gold per ton is found by assay, still the mill result may be reckoned at 15 dwts. of gold all through the proved reefs. The farm Roodepoort, Greylingstad, is situate in the centre of a network of reefs; in fact, it is the middle of a very rich gold basin. There are six reefs already proved in and surrounding the farm—the Heidelburg, Roodepoort, Daaspoort, Reitfontein, and three Kildare reefs. These reefs are embedded in the well-known banket formation dipping round the basin at an angle of 30°. The hanging walls are sandstone, and footwalls slate. Each claim is estimated to contain 20,000 tons of ore per reef. There are great facilities for working these reefs cheaply, owing to the nature of the gangue, the short distance from railway and coal, thus saving great expense in the carriage of stores, machinery, materials, &c., to the mines. Therefore, the working cost will not exceed 20s. per ton of ore raised. Calculating the ore at £2 15s. per ton, and deducting 20s. per ton for cost, the profit will be 35s. per ton. From the above facts, it will readily be seen that, by a systematic opening out of the reefs, and efficient machinery to treat the ores, a lasting and very profitable mining district will be developed for many years to come.—Yours faithfully,

JOHN L. M. FRASER,
Consulting Mining Engineer.

162, *Ebury-street, London.*

MINING IN CORNWALL AND DEVON:

NOTES ON MINING IN THE WEST.

(FROM OUR SPECIAL CORRESPONDENT.)

THERE has been nothing very startling in Cornish mining this week, and about the only thing in which any particular interest is being shown is in the development of the situation between East Pool and Wheal Agar. This has developed somewhat since last we wrote, but not to that extent which most people would have liked to have seen, because it ought to have been possible for both the pumping engines to have gone solidly to work before now. Mr. Strauss has behaved generously in the matter. The response which he gave to the appeal made to him to fulfil his promise to work the Agar engine until the arbitrators' award had been given was in the nature of a letter to the purser of Agar asking for permission to work the engine, and intimating his intention of working it as soon as he got leave. We are not sure whether the executive of Wheal Agar will consider it necessary to convene a special meeting to give leave, but up to the time of writing we have not heard that it has been given. There is some suggestion, too, as to an undertaking being required from the East Pool committee accepting responsibility for all breakages, but seeing that the cost of the engine runs into something like £9 a day, and this Mr. Strauss is prepared to bear personally, surely the risk of breakages ought to be borne by East Pool shareholders. We hope sincerely that no time will be lost in getting to work. There is an enormous pool of water to be drawn to the surface, and there could not be a more favourable time than the present. It will take a long time, under the most favourable conditions, and that is all the more reason why those conditions should be taken the earliest advantage of. No delay, either, should take place in the arbitration; the sooner the whole miserable business can be brought to an issue the better.

THERE is one matter which the executive of East Pool will have to give their attention to as soon as the water is out, and that is to endeavour to trace the source of the inflow. It has been a matter of the utmost astonishment to mining men to find that the water has been rising at a rate of 3 feet a day over the whole area, and this is a tremendous body of water to accumulate in one day. It must obviously come from the long range of old workings, which extend away to the east, and the question is whether that water cannot be dammed up in some way. We have repeatedly said that in some of the mines sufficient attention is not paid to surface draining, and it is quite likely that, in some few instances, perhaps, water is being pumped up over and over again. Even when there is some show of surface draining, it, as a rule, stops at the boundary of the set instead of being done with a view to draining the district. This surface draining is a matter on which more than on any other mines might combine and contribute towards the cost of effecting general improvements, which would retard the easy progress of water underground.

IT is evident that up to the date of the meeting the directors of the Basset Mines had not come to any definite decision as to whether it would be desirable to erect a triple expansion pumping engine on Marriott's shaft, or whether the more certain results of a Cornish pump would satisfy. It is not certain even now what has been adopted, if any decision has indeed yet been come to, but it is an open secret that the directorate is not of one mind on the subject. By this we do not suggest that there is a serious disagreement, but it is a fact that certain of the directors rather incline to the opinion that the largely increased cost of the triple expansion does not warrant its adoption.

AN important improvement is announced at Carn Brea in the 322 end east of Harvey's shaft. This lode has been gradually improving for the past fortnight, and is now valued at £15 per fathom. Captain White has always prophesied that something good would be met with about this point, and it is very gratifying that his forecast has so far been borne out. The lode in the 334 west of Harvey's shaft has also a very promising appearance, and is likely to prove productive as Poddler's crosscourse is approached.

MR. R. H. LEE, having circularised the Killifieth shareholders, in opposition to the conversion scheme, Mr. De Bain, the Chairman of the committee, and five others have issued a reply, in which attention is drawn to the following facts:—(1) That Mr. Lee is the only member of the committee opposed to the scheme. (2) That a liability of 16s. per share will only secure a capital of £4800, a sum which would be altogether inadequate. (3) That, although by the scheme there will be a reserve liability of £2 per share, such amount cannot be called up in less than four years, and there is every probability that the whole may never be called up. (4) That each shareholder can be entirely relieved of all further liability, and secure the two fully-paid £1 shares for each present share by getting a nominee to take up the partly paid-up shares. (5) That the proposed registration of this company as a company with unlimited liability is merely the necessary formal and intermediate step in the conversion of the Cost-book company into a company with Limited Liability

THE PROSPECTUS WILL BE ISSUED ON MONDAY NEXT.

The Right Hon. G. J. Goschen intimated in his speech, on 2nd March, 1896, when introducing the Navy Estimates to the House of Commons, that Water-Tube Boilers would be used for new vessels of Her Majesty's Fleet, including battleships of the largest size, for which the votes were required.

The Times, 4th April, 1896, states:—"The Water-Tube Boiler has unquestionably passed far beyond the experimental stage, and the Admiralty is fully justified in adopting it for these monster cruisers."

The LIST will OPEN on TUESDAY, the 19th May, and CLOSE at or before 4 p.m. on WEDNESDAY, the 20th May.

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CAPITAL £220,000,

Of which £50,000 is reserved for Working Capital,

Divided into 220,000 Shares of £1 each.

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Messrs. C. J. ALLEN and SON, Cowper's Court, Cornhill, and Stock Exchange, London, E.C.

Solicitors.

Messrs. WILLIAM A. CRUMP and SON, 10, Philpot Lane, London, E.C.

Auditors.

Messrs. TURQUAND, YOUNGS, BISHOP, and CLARKE, Chartered Accountants, 41, Coleman Street, E.C.

Consulting Engineers.

Messrs. FLANNERY, BAGGALLAY, and JOHNSON, Consulting Engineers, 9, Fenchurch Street, London, E.C., 17, Water Street, Liverpool, and at Lloyd's.

Secretary (*pro tem.*) **and Registered Offices.**

A. BREWER, Esq. (of "Lloyd's" and The "Baltic," E.C.), No. 3, Pancras Lane, Queen Victoria Street, London, E.C.

IMPORTANT FACTS.

The Petersen Boiler is highly suitable for land purposes.

It is regarded as exceptionally safe, and practically non-explosive.

All joints are without difficulty made metallic and dry and steam-tight, and will stand the highest pressure required without leakage, all expansion being thoroughly provided for. By the special feed arrangement and the rapidity of the circulation the boiler does not scale injuriously under ordinary conditions.

The tubes require less cleaning from soot and ashes, even when the boiler is in action, than other boilers.

This Boiler is suitable for burning all kinds of fuel, coal, coke, oil, or wood, with ordinary induced or forced draught. The experiments upon the Boiler have shown that the steam from this Boiler is absolutely dry, and that there was no priming whatever.

Steam can be raised from cold water to 150 lbs. pressure in from about 20 to 30 minutes, a most important tactical advantage in warships. In fuel this Boiler is very economical.

When used as a land boiler, where the transport up country is difficult and costly, it can be carried in pieces and quickly put together without skilled labour. A few hours would suffice for erection from its component parts and raising steam. A 100 I.H.P. boiler can be so constructed that the heaviest piece will not exceed 3 cwts. These facts are of the utmost importance to mining and other companies.

A most important advantage for all steamships is that the boiler can be taken on board or removed in small parts without in any way cutting the decks; and erected or taken down in a few hours without the use of a single rivet; therefore, there is a considerable saving of expense and time in reboilering a vessel.

The advantages for marine purposes are obvious, as steamers require less weight in their boiler room, thus leaving more weight available for passenger outfit, cargo, or bunker coal.

MOND PRODUCER GAS APPLIED TO THE MANUFACTURE OF STEEL.*

By JOHN H. DARBY, Brymbo.

IN 1889 Dr. Ludwig Mond brought his process for the manufacture of producer gas with recovery of sulphate of ammonia before the public in a presidential address to the Society of Chemical Industry. It will, therefore, not be necessary for me to describe the process and apparatus employed in any great detail. I will confine myself as much as possible to dealing with the improvements that have been made since that date, and with the application of the gas to the manufacture of steel.

I notice in a paper read before the West of Scotland Iron and Steel Institute in April, 1893, by Mr. George Ritchie, the following remarks in reference to the Mond producer:—"The ideas embodied in this arrangement could only have come from the brain of the inventor's genius, but (as he himself remarks) the cost of the plant is considerable, and, in the author's opinion, we must look again for a solution of this most interesting problem." I hope to be able to show that Mr. Ritchie is mistaken, and that in its present form the Mond producer presents the most economical and efficient method of making producer gas for industrial purposes.

When fuel is gasified in the ordinary producer, the products of distillation, including tar, first leave the fuel, and the fixed carbon is ultimately converted into carbonic oxide. This raises the temperature of the contents of the producer and the resulting gas to a high degree, and is sufficient to decompose most of the ammonia originally contained in the fuel as nitrogen, as well as to effect the distillation of the volatile products. The initial heat in the resulting gas is to a great extent lost, and perhaps its only useful office is to keep the tar from depositing before the gas arrives at the point of consumption.

It is evident that at whatever temperature gas enters the regenerator, the waste gas will, when the furnace is reversed, leave that regenerator to a temperature not less than that of the ingoing gas. The sensible initial heat in the gas is, therefore, not utilised in the furnace, but escapes up the chimney stack without doing useful work. I should, however, remark that a small portion of the heat spoken of is commonly employed in decomposing steam in steam jet blown producers.

The objects Dr. Mond wished to obtain in his producer plant were to utilise the heat developed by the combustion of carbon to carbonic oxide, by transferring the sensible heat in the steam and gas, leaving the producer to the air and steam entering the producer. In this way he was enabled to use far more steam than is generally employed, and to work with a low temperature in the producer, preventing the decomposition of the ammonia. This enabled him to obtain the enormous yield of nearly 100 lbs. of sulphate per ton of fuel, at the same time producing a much larger volume of gas of about the same calorific value, volume for volume, compared with ordinary producer gas.

The recovery of by-products from producer gases has been the subject of much consideration, but, as far as I am aware, satisfactory results have not been obtained in using washed gases in the regenerative steel furnace. I understand that a steel furnace was erected by the Coltness Iron Company, which worked well with ordinary Scotch blast furnace gas (see analysis) before this gas was washed to recover the ammonia, &c. Subsequently, apparatus was erected for the recovery of ammonia, but the steel furnace did not work satisfactorily with the washed gas, and it is at present being worked by producer gas made in the ordinary way. Cooling the blast furnace gas causes tarry vapours to be condensed, and the gas is impoverished thereby. This is possibly the reason why the furnace in question ceased to work satisfactorily with the washed gases.

SCOTCH BLAST FURNACE GAS (USING COAL).—(RITCHIE.)

	Unwashed. Average of Two Analyses by Volume per Cent.	Washed. Average of Two Analyses by Volume per Cent.
Carbonic anhydride	6·80	6·30
Carbonic oxide	27·70	27·70
Methane	2·69	2·72
Hydrogen	6·81	7·55
Nitrogen	55·00	55·73
	100·00	100·00
Comparative calorific value	1274	1299

It is probable that the analyses of the unwashed gases do not show the value of the tarry vapours, as they would be condensed in the apparatus, and therefore not taken into account in either case.

In a furnace under my own observation, working with gas supplied from a Wilson's gas producer, the following is the difference in comparative calorific value of the gas before it entered the regenerator and after it left the regenerator:—

GAS BEFORE REGENERATOR, PROBABLY WITHOUT TARRY VAPOURS.

	Average of Five Analyses. Analysis by Volume per Cent.
Carbonic anhydride	7·63
Carbonic oxide	21·73
Ethylene	1·06
Methane	3·05
Hydrogene	12·60
Nitrogene	53·80
	99·87

Comparative calorific value, 1487.

SAME GAS AFTER HEATING IN REGENERATOR, INCLUDING TARRY VAPOURS.

	Average of Five Analyses. Analysis by Volume per cent.
Carbonic anhydride	5·19
Carbonic oxide	24·79
Ethylene	0·41
Methone	1·33
Hydrogen	19·17
Nitrogen	48·98
	99·87

Comparative calorific value, 1524.

In the first instance the calorific value has been determined without the tarry vapours, which were condensed in the collecting tubes of the apparatus employed, and in the second instance it included the tarry vapours, as they were permanently fixed, and their products decomposed in the passage through the heated regenerator. This shows, together with the increase in volume, what probably is the heat value of tarry vapours in the producer gases.

Dr. Mond found that the amount of nitrogen contained in different fuels which he experimented on varied between 1·2 and 1·6 per cent. When he introduced, together with the superheated air required to burn the fuel in the producer, 2½ tons of steam for every ton of fuel consumed, he found that over 70 per cent. of the total nitrogen in the coal could be recovered, in the form of sulphate of ammonia, from the producer gases, this amounting in practice to nearly 100 lbs. of sulphate of ammonia per ton of fuel. Only about one-third of the steam introduced into the producer is decomposed in its passage through the fuel, so that two-thirds remain in the gases, leaving the producer at a temperature of 450° to 500° C. The problem was to return this steam or its equivalent to the producer, and to transfer the initial heat in the gas and steam, leaving to the air and steam entering the producer for the combustion of the fuel. The difficulties in the way of attaining this end, and at the same time recovering the small amount of ammonia in the immense volume of gas to be dealt with, are very great.

The gas leaving the producer from 1 ton of coal is about 160,000 cubic feet, equal to 4530 cubic metres at 15° C. and atmospheric pressure. Mixed with this gas is 100,000 cubic feet, equal to 2831 cubic metres of steam. Under the circumstances the application of cooling arrangements, such as are used in connection with the Scotch blast-furnace, is out of the question. Dr. Mond solved the problem in the following way:—

The hot producer gas is passed through a series of pipes surrounded by an annular space, through which the mixture of air and steam to be introduced into the producer is led in an opposite direction, thus taking up the heat from the hot gas and becoming superheated. Thence the producer gas is led through a rectangular chamber partly filled with water, which is thrown up in a fine spray by revolving beaters so as to fill the whole area of the chamber. This water, of course, becomes hot, a certain quantity of it evaporates, and the spray produced washes all dust and soot out of the gases. From this chamber the gas, which is now cooled down to about 100° C., and is loaded with a large amount of water vapour, is passed through a leaden scrubber filled with perforated bricks, in which the ammonia contained in the gases is absorbed by dilute sulphuric acid. In this scrubber a fairly concentrated solution of sulphate of ammonia, containing 36 to 38 per cent., is used, to which a small quantity of sulphuric acid is added, so that the liquid leaving the scrubber contains only 2·5 per cent. of free acid. This liquid passes through a separator, in which it is clarified. The greater portion of the clear liquid is, after the addition of a fresh quantity of acid, pumped back to the scrubber. The remaining portion of the liquid is withdrawn, and is evaporated in conical lead-lined pans furnished with lead steam coils, which are kept constantly filled by the addition of fresh liquor until the whole mass is thick. This is then run out on a strainer, and yields, after draining, a sulphate of ammonia of very fair quality, and up to the market strength of 24 per cent. of ammonia, which finds a ready sale. The mother liquor, which contains all the free acid, is pumped back to the scrubber. The gas on entering the scrubber contains only 0·13 vol. per cent. of ammonia, and on leaving the scrubber it contains less than one-tenth of this quantity. Its temperature has been reduced to 80° C., and as it is not fully saturated with moisture at that temperature, no condensation of water takes place in the scrubber.

The gas next passes through a second scrubber constructed of wrought iron and filled with perforated wood blocks. In this it meets with a current of cold water which condenses the water vapour, the water being thereby heated to about 78° C. In this scrubber the gas is cooled down to about 50° C., and passes from it to the gas main leading to the various places where it is to be consumed.

The hot water obtained in this second scrubber is pumped through a third scrubber, also of wrought iron, through which, in an opposite direction to the hot water, cold air is forced. The air is forced by means of a blower through the scrubber, and thence into the producer. The air thus gets heated to about 74° C., and becomes saturated with moisture at that temperature by its contact with the hot water, while the water leaves this third scrubber cold enough to be pumped back through the second scrubber. The same water is thus constantly used for condensing the water vapour in one scrubber and giving it up to the air in the other. In this way about one half of the steam required for the producer is recovered and returned to the producer. The rest of the steam required is in part obtained as exhaust steam from the engines driving the blowers and pumps required for working the plant, and the remainder wherever possible from any other exhaust steam available.

The gas producers used, which are a very important feature of the plant, are cylindrical in shape, tapering at the bottom. They are 10 feet in diameter inside in the cylindrical part, and about 21 feet high. Towards the bottom of the producer casing the sides taper inwards, and end in a conical grate having a round opening in the centre, through which the ashes from the burnt fuel descend into the water lute, whence they are easily removed. The upper portion of the producer is provided with a cone and hopper for introducing the fuel, and underneath the cone a bell-shaped casting is placed about 7 feet long, which is kept partially filled with fuel. The casing of the producer consists of two wrought iron shells, having an annular space between them; and the air, saturated with steam, which is blown in, circulates round the producer between the two casings. In this way it is superheated and evenly distributed, and eventually finds its way through the conical grate spoken of. As the air is thus evenly distributed over the whole area where it is required, the fuel in the producer is consumed regularly, and does not, therefore, burn into holes.

The producer is kept filled up to the bottom of the bell-shaped casting spoken of. When fuel is introduced, it is first of all distilled, as in an ordinary gas retort, inside the bell-shaped casting. The gases given off have to force their way downwards and through the hot fuel at the point where it leaves the bell and joins the main body of the producer. The tarry vapours in their way through the hot fuel become fixed, and little or no trouble is found with the tar in subsequent operations. The gas is taken off from the producer by a pipe in the usual way, and passes up and down a series of wrought iron tubes on its way to the mechanical washer. These tubes are surrounded by annular casings, the outside of which is protected from the air by some non-conducting material. On removing the plugs at the bottom of these tubes, nothing but dust issues with the gas, showing absence of tar. I am quite aware that in other producers attempts have been made to permanently gasify the tarry vapours, and in the Wilson producer an annular chamber is provided in the brickwork surrounding the freshest portions of the fuel. The object desired, however, in the last producer named is not attained. It will thus be seen that the Mond gas, although washed, is not impoverished by the removal of the tarry products, but that they go forward as permanent gas. The steam saturated air coming forward to the producer passes through the annular casings referred to, is heated in them at the expense of the initial heat in the gas itself, and in this way returns a considerable part of the heat in the gas to the producer.

(To be continued)

* A Paper read before the Iron and Steel Institute.

— The directors of the CHIAPAS MINING COMPANY (LIMITED), at their meeting on Tuesday, declared a dividend at the rate of 10 per cent. per annum (less income-tax) to March 31 last, on the preference shares of the company, payable on June 1.

MEETINGS OF MINING COMPANIES.

MASON AND BARRY, LIMITED.

The fourth annual general meeting of the members of Mason and Barry (Limited) was held on Monday, at the Cannon-street Hotel, Mr. FRANCIS TRESS BARRY, M.P., presiding.

The ASSISTANT-SECRETARY (Mr. Edward O. Barry), in the absence of the secretary (Mr. John G. Barry), read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—In submitting for your approval the general balance-sheet and profit and loss account to December 31, 1895, I think I may congratulate the shareholders that we are able to place before them a balance-sheet which, from a financial point of view, is of so satisfactory a character. I would remind you that at our annual meeting in May, 1894, I explained the future policy of the board in the following words:—"We shall continue to make every effort to turn into cash our fixed assets, and shall be quite satisfied if in the future we are able to declare the payment of a small dividend year by year, and, at the same time, gradually accumulate money so as to make further repayments on account of capital." It is in pursuance of this policy that we propose to-day to declare the payment of a dividend of 2s. 6d. per share, which is the same rate of dividend as that of last year, and in addition we are pleased to say our cash assets have so increased that we can ask for your sanction to apply to the Court for its authority to make to you a further or second repayment of £1 per share of capital, thus reducing the nominal value of the shares from £4 to £3 per share. This repayment will, as before, absorb the large sum of £185,172. Application will be made to the Court immediately upon the special resolution, which you will be asked to-day, at our extraordinary meeting, to approve, having been confirmed at a subsequent extraordinary general meeting, but this legal business cannot be hurried, and we do not anticipate being in a position to make the repayment before the month of October next. With respect to the balance-sheet, you will notice that the fixed assets in Portugal have been reduced by the sum of £12,700. The balance of cost of ore at cementation works has been reduced by a sum of £46,330, whilst the total value of the stocks of other ore and copper precipitate at December 31—namely, £83,655, is less than the value enumerated in the present balance-sheet—namely, £230,132, exhibit an increase over the amount of cash assets shown in the balance-sheet at December, 31, 1894, of £66,000. At our last general meeting you agreed that the investments should be taken at the prices they were valued at in our balance-sheet of December 31, 1893, and we have consequently valued them in the same way in the present balance-sheet. Had we valued them at the prices ruling on December 31 last, there would have been a paper profit rather in excess of £8500. As a portion of these stocks will only be held until we repay you £1 a share as a return of capital, if sanctioned by the Court, we hope that the present high prices of these stocks will be maintained until we are in a position to deal with them. The one unfavourable feature in relation to the accounts for 1895 is the fact that the sales of ore for sulphur value have not equalled the sales during 1894 by a total 44,000 tons. You may, however, probably recollect that at our meeting in 1894, to which I have already referred, I stated that the market for this ore was an uncertain one, and this uncertainty your directors consider renders it the more necessary to continue to write down the balance of the cost of the ore at the cementation works, now reduced to £209,316, as quickly as practicable. This balance you will see is more than equivalent to another £1 per share of capital to be returned to the shareholders as soon as we are able to turn the item into cash, but you must not expect that such return will follow the one we propose to make to you this autumn, so quickly as the latter will have followed the return of capital made to you in 1894, which will then have taken place at least one year sooner than we anticipated. Our make of copper precipitate was 3059 tons fine copper in 1895, as against 3221 tons in 1894, and 3566 tons in 1893. Owing to the necessarily much smaller breakage of ore in the mine during the last three years, this reduction in our copper make was certain, and will doubtless continue. At the same time it will take many years to extract all the copper from our large heaps of ore at the cementation works. You will notice in the profit and loss account an item under the heading of "Expenditure on exploration works, £1641 0s. 7d." This is expenditure incurred in trying to prove the practical value of the two deposits of ore referred to at the last annual meeting. I regret to say that nothing of workable value has as yet been discovered, and, although we have come across small veins of good ore, we are now not very hopeful of finding any mass sufficiently large to warrant the necessary outlay for its extraction. We consider, however, that we ought not to abandon the concessions until we have completed the investigations now in progress, and which are not more than necessary to prove the points at which ore is most likely to be found. So far the best indications are in that concession at some miles from our mine, and it would require the discovery of a considerable mass of ore to enable us to work it profitably. There is nothing more I think it necessary to comment upon concerning the accounts for 1895, and as regards the current year we shall be satisfied if we do as well as in 1895, although we shall strive to do better. I will now propose the first resolution:—"That the directors' report (No. 4) and the general balance-sheet for the year ending December 31, 1895, as signed by the auditors, be received, adopted, and entered upon the minutes, and that a dividend for the year ending December 31, 1895, be now declared at the rate of 2s. 6d. per share, free of income-tax, the same to be payable on and after Thursday, the 21st inst."

Mr. J. F. MASON seconded the resolution.

A SHAREHOLDER said the Chairman in his remarks had made no reference to the lawsuit now proceeding in Paris. He also wished to know what was being done with the waste heap, which still contained, roughly speaking, about 3,000,000 tons of ore.

The CHAIRMAN said, as far as the lawsuit was concerned, the matter was before the Paris Court this week, and they were awaiting the result of the action, which they hoped would be favourable to them.

Mr. J. F. MASON, replying to the second question, said the heap contained 3,000,000 tons of waste, but the amount added each year did not correspond with the amount that was exported. As a matter of fact, it was estimated that the quantity of copper had been reduced by 1400 tons. The ore was of certain value alone, but they had to look upon it as rather doubtful whether they were able to sell so much as 3,000,000 tons.

The resolution was then carried unanimously.

Mr. J. F. MASON proposed the re-election of Mr. Francis Tress Barry as a director.

A SHAREHOLDER seconded the motion, and it was agreed to.

The CHAIRMAN, having acknowledged the compliment, proposed the reappointment of Mr. H. E. Beddington as a director.

Mr. J. F. MASON seconded the resolution, which was carried.

The auditors, Messrs. Josolyne, Miles, and Blow, were also reappointed.

An extraordinary general meeting was then held for the purpose of considering the following resolution:—"That the capital of the company be reduced from £840,000, divided into 210,000 shares of £4 each, to £630,000 divided into 210,000 shares of £3 each, and that such reduction be effected by returning to the holders of the shares that have been issued, and to the parties entitled to have fully-paid shares issued to them, paid up capital to the extent of £1 per share and by reducing the nominal amount of all the shares from £4 to £3."

The CHAIRMAN formally moved the adoption of the resolution.

Mr. J. F. MASON seconded the motion, and it was unanimously carried.

A vote of thanks to the Chairman and the directors concluded the meeting.

KILLIFRETH.

A four-monthly meeting was held on the mine on Thursday, Mr. T. F. TROUNSON, the purser, presided.

The accounts showed:—Debits. Labour costs £2534; merchants' bills, £1659; expenses attending committee, £12; stannary assessment, £3 16s. 6d.; income-tax, £93; total debits, £4322. Credits: 105 tons 19 cwts. of tin sold, at an average of £36 14s. 7d. per ton, realised £3894; arsenic, £159; halvans, £109; extra carriage, £14; discounts, £38. The credits totalled £4219, and left a loss on the 16 weeks' working of £103.

Resolutions were passed adopting the accounts, and forfeiting all shares upon which more than one call was due, and authorising the committee to dispose of the forfeited and relinquished shares as they thought fit.

The report and recommendations of the committee as to the conversion of the company from Cost-book to Limited Liability were read. Proxies in favour of this scheme had been received for 3050 shares, and proxies for the scheme advocated by Mr. Lee totalled 812.—Replying to Mr. LEE, the CHAIRMAN, stated that the whole of the 3050 had agreed to take up the new shares that would be offered, and Mr. F. D. BAIN proposed the adoption of the committee's recommendations. He was sorry the committee were not entirely in accord on the scheme, but the majority felt it was the best they could recommend. They considered the sum to be raised would be ample to carry on the mine for years to come, and to make the necessary improvements in machinery, &c.—Mr. CHARLES JENKIN seconded the motion. The only point of difference between the schemes was as to the amount of capital. A smaller capital might prove insufficient, and would lead to reconstruction, and possibly abandonment of the mine. —Mr. LEE considered the scheme was brought forward in the interests of certain people. Under it shares with a liability of £2 each would be forced upon them, or they would be squeezed out of the thing altogether.—Mr. C. V. THOMAS remarked that of course if they could get someone to plank down £12,000 to work the mine they could abandon the scheme, but at the present it was impossible to raise that amount or capital outside. The responsibility rested on the shareholders, and must be divided in proportion to their holdings.—Mr. BORLASE CHILDS suggested that the meeting should first agree on the principle of Limited Liability, and that some arrangement or compromise should be made between the supporters of the rival schemes as to the amount of capital. Captain R. JAMES read a report of the improvements intended to be effected in machinery and developments underground, the estimated total cost of which was £8200. He was convinced if this work was carried out they would not only increase the monthly output, but would also considerably lessen the cost of produce, and thereby make profitable a quantity of tin stuff which was unprofitable.—Mr. C. A. V. CONYBEARE supported the committee's scheme. It struck him there was a lamentable want of economy and great wastage in the repeated handling of the stuff. Then better machinery was wanted, and it was to meet these matters that they required some capital. To ensure success they must be able to reduce the cost of production, and increase the output. He was prepared to increase his holding, because he believed they had a valuable property there. Probably before long Captain James would be driving one of his crosscuts under Tregullow. He had always insisted strongly upon two things—that every lord should be an adventurer, and that dues should be based on profits. When the time came for the committee to approach him, he should insist on receiving dues only on profits.—Mr. LEE proposed as an amendment, and it was seconded by Mr. CHILDS, that his (Mr. Lee's) scheme should he adopted.—This amendment was defeated by twenty to eight, and the original proposition was carried.

Messrs. F. G. Allen, F. D. Bain, E. R. Noall, S. J. Davey, J. B. Sanders, U. Green, C. Jenkins, W. T. Williams, and R. H. Lee were elected as the committee.—A vote of thanks was accorded to Lord Falmouth for his renewed liberality in remitting the dues during the past sixteen weeks, and asking his lordship to accede to the request of the committee that the new lease should be for 60 years. Under the new lease the dues will be 1-40th when tin is below £40, 1-35th between £40 and £50, 1-25th between £50 and £60, and 1-20th over £60. In view of the extensive work proposed under the new scheme, the committee are also asking for a total remission of dues for three years.

A vote of thanks was accorded the manager, purser, and committee.

THAMES HAURAKI GOLD FIELDS, LIMITED.

The statutory meeting was held yesterday at Winchester House, Old Broad-street, the Earl of DONOUGHMORE, K.C.M.G. (the Chairman of the company) presiding.

The SECRETARY (Mr. S. G. Bruff) read the notice calling the meeting.

The CHAIRMAN: Gentlemen, as you are aware, this is the statutory meeting, and naturally you will not expect that I shall be able to go at very great length into the affairs of the company. As a matter of fact, we have something to tell you, and what we have to tell you I think you will find to be in no way of a disappointing nature. In the opinion of the directors, what we have to report is eminently satisfactory, and I hope I shall find, when I have finished what I have to say to you, that you will share in the directors' opinion. As you are aware, the company was registered on January 17 of this year, and the whole of the working capital, as set forth in the prospectus, was applied for. The property, as you know, consists of three leases, renewable for consecutive terms of 21 years. They are called the Queen of Beauty Extended, the Deep Sinker, and the Deep Levels Consolidated. Their area is 250 acres, and they are situated in the well-known Thames District of New Zealand, which we believe to be perhaps the richest part of that gold-bearing country. We have representing us out there as general manager Mr. E. T. McCarthy, who has been most highly recommended to us, and we think we are very fortunate indeed in having secured his services. As manager under him we have appointed Mr. T. A. Dunlop, who has a very large interest in the mines, and in whom the directors also place great confidence as a trustworthy, competent man. With these two appointments we believe we have secured two perfectly competent gentlemen to manage our affairs, and to develop the property which we have acquired. With regard to the prospects of the property, I do not think I can do better than read the telegrams we have received from time to time from these gentlemen, who are on the spot, who are both experts, and who are capable of forming a perfectly correct opinion as to the value of the property, both being men of considerable experience in mining. The first cable we had from Mr. McCarthy, which was sent very soon after his arrival, is to the following effect:—"I consider it a most valuable property. Important to transfer as soon as possible. It is generally believed here that the prospects are grand." On April 16 we had the following cable:—"Have advertised for tenders to a total depth of 323 feet." You are aware that by our contract with the New Zealand Government we have to put down a large pumping plant, and this allusion to a depth of 323 feet is to the shaft which will be required for this. The cable goes on to say:—"Instruct by telegraph if we shall accept. Should push on now as rapidly as possible. Proposed to commence sinking shaft at once on the Deep Sinker, crosscut in each direction so as to open up reefs on the Deep Sinker and Deep Levels Consolidated. Telegraph if this meets with your approval." We authorised them at once to place this contract, and also approved a new shaft being sunk on the Deep Sinker. Later on the same day we received another cable with reference to the tenders for widening the shaft as follows:—"The prospects are most encouraging. With reference to our cable dated the 16th"—that is the cable I have just read to you—"please let me have a reply as speedily as possible." On April 27 we received the following:—"The transfer of the property has been formally completed, and all the property is now registered in the name of the Thames Hauraki Gold Fields (Limited)." On May 11 the following cable was received:—"Have the highest opinion of the property. Good progress is being made in all departments, and shaft is now timbered down to 86 feet." That would be the contract to which I alluded—the sinking of the 323 feet. "Do all you can to hasten completion of machinery." You will gather from what I have said that the general manager we have appointed has formed the highest opinion of our property, and I may say that it was arranged with him before he went out that some 200 tons of quartz should be taken from the mine and sent home to England for the purpose of being assayed, in order to discover which is the best method of extracting the ore, before we proceed to erect the 40 stamp battery mentioned in the prospectus. With regard to the pumping machinery, the contract of that has already been placed. The directors have asked for tenders, and they have placed the contract with a very eminent firm of engineers, viz., the Sandycroft Foundry and Engine Works Company (Limited), and they have engaged to complete the whole of the contract for the machinery within eight months' time. Certain portions of it were expected to be completed in two months' time, and as the different portions are finished they will be shipped out to New Zealand. You will remember by our arrangements with the New Zealand Government, that for every £1 we spend on machinery that Government contributes a similar amount up to £25,000. We have to exercise great care in regard to the specifications for the machinery because we have to adhere as far as possible to the plans and specifications approved by the New Zealand Government. And here I may say that I think we are specially fortunate in securing as consulting engineers the services of Messrs. T. and W. Morgans, of London and Bristol. These gentlemen have gone through the specification with the utmost care. This specification is recommended by Mr. Gordon, the Government Engineer of New Zealand, and they have also studied the plans which were drawn up in accordance with these recommendations. They have come to the conclusion that there are certain alterations which may be of benefit, and we have their letter in which they embody these modifications, which we have sent out to New Zealand, in order to obtain the consent of the Government to the alterations proposed. These suggestions have been divided into different sections; the letter has been most carefully drafted, and our representative out there will go to the New Zealand Government, and as these changes are approved, or the contrary, one by one—and I have little doubt that they will be approved as they are all for the purpose of making the machinery more powerful and suitable—so they will telegraph to us, and the contractors will be informed of the work to be put in hand. The pumping plant which we have to erect in order to obtain our subsidy from the New Zealand Government must be capable of raising 2000 gallons of water 1000 feet per minute, and we must have sufficient power to raise the same quantity at the same rate, 2000 feet if necessary, so that the plant is a very large one. We have arranged for all this, and we have no doubt that when it is erected it will thoroughly come up to all that is required. As regards the Queen of Beauty shaft, that is down to a depth of 748 feet, and the water stands about half way, so that you will see that our manager on the mine has advertised for tenders for timbering the shaft down to water level, and 86 feet of that is now completed. The shaft as taken over by the company was not large enough to admit of the new machinery, and we have been at work for some time widening it. Having regard to the fact that the gold obtained from the Queen of Beauty Mine alone, during its previous existence was between £350,000 and £400,000, and that the reefs have really only been partially worked, we feel very sanguine with regard to the prospects in the future. (Applause.) Once the pumping machinery is erected and the water that is at present in the mine is cleared, we can set to work on the reefs and be able to know what is the quality and quantity of the gold obtainable. There is one very important asset this company possesses to which I should like to draw attention, that is, under the New Zealand Mining Act of 1891, which enacts that owners of drainage machinery shall be entitled to a contribution from the adjacent mines benefited. That will represent a considerable sum of money per annum. The present contribution is about £4330, and we estimate when our machinery is down and we are at full work the royalties upon the drainage will amount to at least £6000 a year. You will have seen by the prospectus that the rich line of country runs almost from north to south, and that our Thames Hauraki property runs in the same direction, the Deep Sinker being a little south-east of the Queen of Beauty Extended, and the Deep Levels Consolidated south of the Deep Sinker. Before I conclude, perhaps it may strike some of you that considerable time must elapse before this pumping machinery is put down, and that consequently some time must pass before we get any returns from the mine. I should like, however, to point out that there are several reefs on the property. We have sunk the shaft on the Deep Sinker. We shall get the 200 tons of ore home as soon as we can, and there is no reason while the machinery is in progress of erection that we should not at the same time work in other parts of the property, and endeavour to get a return for our shareholders. I consider that we have a most valuable property, and I hope when the directors have the honour of meeting you again they will not only be able to tell you what they think, but to show you very practical results. (Applause.) The board will do the best they can to serve the interests of the company, and any news that comes to hand of importance will be duly communicated to the shareholders. I am much obliged to you for your courtesy in listening to my statement, and any questions that shareholders may desire to put I shall be most happy, if it is in my power, to answer, and to give all the information or particulars I can. (Applause.)

A SHAREHOLDER: How many shares were applied for by the public.

The CHAIRMAN: I was abroad when the company was brought out, but the secretary informs me that 75,000 shares were applied for by the public.

A SHAREHOLDER: Can you tell us when we shall get a Stock Exchange quotation?

The CHAIRMAN: The secretary has the application, which he is going to bring before the next board meeting. He will then put himself in communication with the Stock Exchange, who will, I suppose, appoint a day for dealing with this matter.

On the motion of Mr. EVERSHED, a cordial vote of thanks was passed to the Chairman and directors, and the meeting separated.

HALF-MILE REEF (LIMITED).

The statutory meeting of the shareholders in the Half-Mile Reef (Limited) was held on Wednesday, at the Guildhall Tavern, Gresham-street, E.C., when the Chairman (Mr. Sinclair Macleay) stated that the directors had just received a cablegram from Mr. Piggott, which was of a very satisfactory nature. It ran as follows:—"The mine looks exceedingly well. Our present rate of sinking is 15 feet per week. The depth of the underlie shaft is 120 feet. The level is being vigorously pushed forward on the line of the reef. Eight thousand tons will be available, overhead stoping. Ore will probably average 2 ounces to 3 ounces of gold per ton. Shall proceed to open up side reefs in due course. Statements, prospectus justified." The property consisted of three claims; in the centre they had the Australasia, on the north the Australasia North, and on the south the Economist. The formation consisted of ironstone or ferruginous jasper dykes, and so far as the development work had proceeded, it gave every indication of bearing good

gold. In fact, the proprietors might consider that they possessed a mine containing an enormous amount of gold-bearing stone, which there was no reason to suppose would not continue to a very great depth. He would be greatly disappointed if their battery was not erected and at work in six months' time.—A vote of thanks to the Chairman and directors terminated the meeting.

THE CORSAIR CONSOLIDATED GOLD MINES, LIMITED.

The first ordinary (statutory) general meeting of this company was held yesterday, at the Cannon-street Hotel, under the presidency of the Marquis of TWEEDDALE, the Chairman of the company.

The SECRETARY (Mr. H. Milner Willis) having read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—You are aware that this is the statutory meeting which is required by law to be held within four months of the formation of a company. There are, therefore, no account to present to you, but I will give you as much information as we possess with regard to your property. The company was registered on January 20, 1896, with a capital of £225,000, of which £100,000 is reserved for working capital. The capital was subscribed very largely, the company having met with a very good reception from the public. The object of the company was to acquire a property consisting of 21 leases, and extending to 504 acres, situated about five miles to the east of the Great Boulder group. It was selected by the representative of the Colonial Finance Corporation and West Australian Pioneers (Limited), Mr. George Gray, who obtained the concession of the leases for these companies. Mr. Gray and our managing director, Mr. Moir, have returned to Australia, and before I sit down I shall read to you a cablegram which has just been received from Mr. Gray, giving the latest information with respect to the property. I daresay you will remember that the prospectus informed you that the leases include a formation parallel and very similar to Hannan's Main Camp. The principal lode running through the centre of our property was represented to be superficially stronger than any line of reef found when Hannan's Camp was first taken up, being in some places over 20 feet wide, and carrying gold from wall to wall. In the report of Mr. Gray he further mentioned with reference to three of the leases—namely, the Black Swan, Table Top, and Golden Age, in the centre of this strong lode formation, there is a stratum of ferruginous schistose some 8 feet in width, carrying rich gold, and samples of this, which were obtained by Mr. Gray, average no less than 7 ounces to the ton. Since our leases were pegged out, the country has been taken up both north and south for a distance of 7 miles—I think a very good evidence of two things: one, that we were the first in the field; and, secondly, that others have followed our example, having at least as much confidence as we have in the value of the country from a mining point of view. In referring to this lode which I have just mentioned, Captain Oats, who is a recognised authority in Australia, mentions that he considers it one of the most masterly—or, in other words, the richest—he has ever seen during his 40 years of mining experience. I am happy to be able to say that the railway to Kalgoorlie is rapidly approaching completion. This will, of course, materially reduce the cost of transporting machinery and all other materials required for the efficient working of the mines, Kalgoorlie, the terminus of the railway, being only a few miles from our property. You have heard not once, but many times, that there is no water in Western Australia. That has been one of the bogies of West Australian mining. But not only is there an ample supply of water in the vicinity of both the Hannan's and of the Corsair (which water is the property of the Hannan's Company), but there has been an ample fall of rain amounting to no less than 4 inches, of which we have been advised by our manager in Australia. With regard to the latest news, which is perhaps the most valuable and interesting, I will just read to you the cablegram received only a few hours ago. It is as follows:—"The development of Corsair property consists of 19 shafts; deepest 96 feet on Chicago. Average may be taken at 60 feet. Shafts sunk on main line lode in exceeding strong formation carrying gold; three shafts very good gold. You must remember it is scarcely 90 days since work was commenced. During the entire month of December work done; result most satisfactory. Have not been able to visit yet. Regret that, therefore, cannot report fuller detail. After I have visited I will report as soon as possible on latest developments by an early mail." These telegraphic reports will be published when they arrive, so that shareholders may have the earliest information of the state of the mine. I think that the cablegram is very satisfactory. Of course, at present we are trusting to Mr. Gray's recommendations of this property, but, as I said just now, the fact of leases having been taken up to a very large extent both north and south furnishes some evidence that the persons out in Australia dealing with these matters consider that the ground is very favourable for mining operations. We have no reason whatever to question the accuracy of the advice and recommendation given as by Mr. Gray. The mines on Hannan's Proprietary are proving quite as prosperous as he led us to believe they would; in fact, we have reason to believe that they are turning out even more valuable then he originally represented. The Corsair property having been obtained very early in the day, I think we have it on terms more favourable to the company than even in the case of Hannan's Proprietary. I do not think I can add anything to what I have said. We fully believe in the value of our property, and I have no doubt before I meet you a year hence we shall be able to give you a very substantial return on your capital. I may mention that one of our directors—Mr. Brookman—is here, and he will be glad to give any information in his power to any gentleman who wishes to be more fully informed as to the condition and prospects of the company. There is no one better informed on all subjects connected with West Australian mining than he is. (Applause.)

A SHAREHOLDER enquired whether any gold had been found on the property.

The CHAIRMAN replied that the cablegram stated that very good gold had been found in three of the shafts.

Mr. W. G. BROOKMAN then addressed the meeting at the request of the Chairman. He said he had the utmost confidence in the property. He, in conjunction with Mr. Pearce, went out to Western Australia not quite three years ago, and they were fortunate in discovering the Great Boulder and all the other valuable mines in the immediate neighbourhood. Captain Oats was instructed by him to report upon the Great Boulder Mine for the Coolgardie Prospecting Syndicate, whom he represented at that time. Captain Oats' report was of such a glowing nature that the shareholders of that particular syndicate were rather inclined to look upon it with some doubt, and there were men in London who did not realise that the mine could be so rich as Captain Oats reported. There was no man in Western Australia who had more experience and was better acquainted with the peculiar characteristics of the country than Captain Oats, and in him this company had a careful mining expert, and a man who would not express his opinion unless he was utterly confident of what he was doing. Having the report of a man like Captain Oats, combined with that of Mr. George Gray, than whom there was no more clever mining engineer, the shareholders should rest quite content that they had their money invested in one of the best properties in Western Australia. The policy of the board would be to vigorously and actively develop the property. Machinery would be ordered the moment their engineers cabled for it. A great deal had been said about the water question. Every expert that visited the country said they had got the gold there, but no water. The directors had received cablegrams recently telling them that in the very lakes within a few miles from the Corsair property they had 4 or 5 feet of water to-day. That was what he saw the first day he put a foot on Hannan's Field, and when he told people that they did not believe him, because the lakes were dry. The water was there, and it naturally followed that there was a good rainfall. There was plenty of water in the country, and it only required conservation. When he was local director of the Leviathan Public Crushing Company, he built a dam for £270 which held 7,000,000 gallons of fresh water. That was done after the last rainfall, just before he left the field, and he had no hesitation in saying that if the various mining companies in London and West Australia were prepared to spend a few thousand pounds, they could construct as many dams as they liked to hold as much water as was required for mining and other purposes. At the White Feather property, which was only a few miles away, they had boats, swans, and ducks on the lakes. Regarding the Corsair property, they had the reports of Captain Oats, to whom he pinned his faith, as he found he had never made a single mistake. He (Mr. Brookman) had seen gold taken from the property, and when Captain Oats told them that the lode was 20 feet wide, and showing good gold, they might take it that it went several ounces to the ton, because Captain Oats was a man who always liked to be well within the mark. This was a very young company, and the shareholders must bear in mind that these mines could not be opened and developed in a few weeks or months. Shareholders must have faith in them, and give those who were conducting the affairs of the company a reasonable chance of opening and developing the properties and giving them returns. No shareholder in any company whatever should look for any returns within 12 months after the flotation of the company. With regard to this property, no time was being lost and no money spared. It was being spent in a wise, careful, and judicious manner, and the policy of the board was to exercise a wise discretion, and have the mines opened up at the earliest possible moment. He had every confidence in the property. Personally he held 11,000 shares, and represented 3000 shares for a friend. When the directors had the pleasure of meeting the shareholders, he believed the Marquis of Tweeddale would have even better news to tell them than he had that day. (Applause.)

A vote of thanks to the Chairman terminated the proceedings.

JOKER (YALGOO) GOLD MINES (LIMITED).

The statutory meeting of the shareholders in the Joker (Yalgoo) Gold Mines (Limited) took place at Winchester House, E.C., on Tuesday, when Mr. Lowe, who presided, said the company was formed for the working of four leases in the Yalgoo district. The capital was over-subscribed, and the result of the developments so far, had been highly pleasing to the shareholders. The directors had appointed as mine manager a man thoroughly competent, and he had decided to work the property from two centres, thus ensuring a full and constant supply of ore for the battery as soon as it was ready to start. Two shafts were being sunk—one on the Joker's lease and the other shaft on the Miners' Right. Mr. Harris, an independent expert, had reported very favourably on the mines, and specimens of the ore, which were produced for the inspection of the proprietors, were similar to those obtained from the Great Boulder reef, and, therefore, proved that the lode was very rich. The question of obtaining a good water supply had been settled, and a 20 stamp battery had been ordered. As an indication of the value which Australians attached to the property, Mr. Lowe mentioned that there had been a good demand for their shares from the colony. Altogether they were fully satisfied that the property was one which would turn out very successful.—Two or three questions having been asked and answered, the meeting terminated.

ZAMBESIA EXPLORING COMPANY (LIMITED).

The ordinary general meeting of the shareholders in the Zambesia Exploring Company was held on Tuesday, at Winchester House, E.C., the chair being occupied by Mr. Sheffield Neave.—In moving the adoption of the report and accounts, the Chairman said the hope held out at the last meeting that the company's operations would be extended during the year 1895 had not been fulfilled, in consequence of the present disturbance in South Africa. However, although the outlook at present was not a very favourable one, the directors saw no reason why, in the very near future, their undertaking should not prove a great success. Fortunately, none of the company's present properties would suffer from the recent Matabele raid, all of them being some distance away from the seat of war. In regard to the company's finances, the directors had paid a cent. per cent. dividend, and thereby repaid the original capital, while, in addition, they had a net profit of some £23,000 to the good. A proposal was now being considered to amalgamate the interests of a smaller company with this company, and they were in treaty with the directors on the matter. If a satisfactory arrangement were made further capital would be required to carry out the scheme. In conclusion, he expressed the hope that at the next annual meeting the directors would be able to place a more favourable statement before the proprietors.—The resolution was carried unanimously.

THE CORTEZ MINES (LIMITED).

An extraordinary general meeting of the shareholders in the Cortez Mines (Limited) was held at the Cannon-street Hotel, on Tuesday (Mr. J. Carroll presiding), for the purpose of considering the following resolutions:—"(1) That the company be wound up voluntarily under the Companies' Acts, 1862 and 1867. (2) That William Prosper Shaw, of No. 606, Sutter-street, San Francisco, U.S.A., be appointed liquidator for the purposes of such winding-up. (3) That the said liquidator be authorised, pursuant to Section 161 of the Companies' Act, 1862, to sell and transfer all the undertaking and assets of the company, subject to its liabilities, to the Tenabo Mill and Mining Company, a corporation organised under the laws of the State of California in the United States of America, upon terms of receiving from the purchasing company fully paid-up shares of that company equivalent in value, at par, to the nominal amount of the shares in the Cortez Mines (Limited), for distribution among the members, and otherwise upon the terms of the draft agreement read to the meeting and signed by the Chairman subject to such alterations as the board and the liquidator may approve."—The solicitor to the company (Mr. Dawes) briefly explained the proposal, and said that out of the 300,000 shares, the holders of 298,874 had given their assent to the scheme. Practically, the shareholders were transferring their interest from an English to an American Company, by which means the mines would be more easily worked.—The Chairman then formally moved the resolutions, and they were carried unanimously.—The meeting then separated.

LONDON AND SOUTH AFRICAN PROSPECTING, MINING, AND LAND SYNDICATE (LIMITED).

The ordinary general meeting of the shareholders in the London and South African Prospecting, Mining, and Land Syndicate (Limited) was held on Monday, at the offices of the company, No. 4, Tokenhouse-buildings, E.C., when the Chairman (Mr. J. W. Chisholm), in moving the adoption of the report and accounts, stated that the profit on the sale of the old securities held by them amounted to £14,340, while from other securities the profit realised was £3285. The total amount on the credit side was £21,700. The debtor side included the loss of £445 on a West Australian venture, and £2500, the amount written off the old formation account. After allowing for these and other items the total net profit was £17,287. In regard to the Lydenburg field, this area was now being vigorously prospected, and in the event of a rich reef being struck their holding here would no doubt greatly increase in value. Substantial interests were also held in several South African and West Australian mining companies, many of which were proving very successful ventures. As to their present financial position, having a balance at the bankers of £11,760, they proposed to declare a dividend that day of 20 per cent.—Major-General Wardell seconded the resolution, and it was carried.—The Chairman then moved the declaration of the dividend named above, and the motion was agreed to.—Major-General Wardell was re-appointed as a director, and the auditors having been re-elected, the meeting concluded with a vote of thanks to the Chairman.

CASTLE MAIL PACKETS COMPANY (LIMITED).

The 15th annual general meeting of the shareholders in the Castle Mail Packets Company (Limited) was held on Wednesday, at the Cannon-street Hotel, Mr. J. C. Bolton presiding.—The Chairman, in moving the adoption of the report and accounts, stated that the result of the year's business was somewhat more favourable than that for 1894. In the latter year the nett earnings, after allowing for all outgoings, except depreciation, were £114,471, while during the past year the amount gained was £166,457, being an increase of nearly £52,000. A year ago he told the shareholders that to enable them to distribute the same dividend the council restricted the amount written off for depreciation. This year, however, the council, having the profits to deal with, had resolved to devote £124,500 to depreciation, being £120,000 for the depreciation in the value of the ships and £4500 for their other property. In 1894 the average value per ton of the ships was stated to be £17 9s. 4d., but on December 31 last it was estimated at £16 4s. 11d. He thought the shareholders would agree with him that this was by no means an extravagant price. The absolute profit was £41,957, but with the sum of £2371 brought forward from 1894 the amount was £44,329. In November last an interim dividend of 7s. per share was paid, absorbing £12,600, and they now proposed to transfer £10,000 to the reserve fund, bringing the amount up to £115,000, and to pay an additional dividend of 10s. 6d. per share. This would require £18,900, and would leave the sum of £2829 to be carried forward to the credit of the current year. During the latter half of the past year the attention of the council was strongly directed to the rapid development of the South African trade, and they came to the conclusion that it was desirable to materially augment the tonnage of their fleet. They had contracted for five additional ships, all of them to be of large tonnage. Two of these ships would replace two old vessels which had become unsuitable for the trade, and the other three would be additions to the fleet. One of the five—*Dunvegan Castle*—was already on the water, and they hoped to have another one at work before the expiration of the present year. In order to provide funds for the cost of the new vessels the council proposed to ask the shareholders to authorise them to increase the amount of the debentures of the company from £300,000 to £500,000. Referring to the present unsettled state of affairs in South Africa, the Chairman said it was satisfactory to know that it had not affected their business—in fact, it had increased the trade as compared with the same period of the previous year. He then moved:—"That the report of the council and accounts now presented be received and adopted, and that a dividend of 10s. 6d. per share be declared for the half-year ended December 31."—Admiral Sir A. H. Hoskins seconded the resolution, and it was carried unanimously.—Mr. John Napier was reappointed as a director, and Messrs. Welton Jones and Co. as auditors.—An extraordinary general meeting was then held, when the Chairman formally moved that the debenture stock be increased from £300,000 to £500,000.—Mr. Napier seconded the resolution, and it was carried.—A vote of thanks to the Chairman and council concluded the meeting.

FORBES REEF GOLD MINING COMPANY (LIMITED).

The third ordinary general meeting of the shareholders in the Forbes Reef Gold Mining Company (Limited) was held on Wednesday, at the Cannon-street Hotel, Mr. F. H. Favell presiding.—The Chairman, in moving the adoption of the report and accounts, stated that the final call of 1s. having been paid, the shares now stood as fully paid. On December 31, the amount owing by the company was £204. The concessions stood at the same figure as in 1894. On the capital account they had expended £1137 on buildings, machinery, plant, &c., while they had £904 in hand, and £382 was owing to the company. The expenditure charged to the profit and loss account had been £4000 less during the year than in the previous 12 months, the reduction being in consequence of their only having treated half the usual quantity of ore. The reason for this was the serious drought which was experienced during 1895. The returns of gold had been correspondingly less as well, and had only just covered the cost of mining and milling. Alluding to the progress made with the diamond drill, Mr. Favell said this had been slow, and they had to sink another 100 feet before they expected to reach the Main reef, while the trial crushing of ore from the Red reef had not been a success.—The resolution was carried unanimously.—Mr. J. A. Kendrew and Mr. E. B. Livingston were re-elected directors, and Messrs. J. O. Chadwick and Son auditors, after which the meeting terminated.

AUSTRALIAN DIAMOND MINES PROPRIETARY.

The first half-yearly meeting of the Australian Diamond Mines Proprietary Company, Mount Derra Derra, Bingara, New South Wales, was held at Prell's-buildings, Queen-street, on March 30.—Mr. James Crotty, Chairman of directors, presided, and reported that the work of placing the machinery in position was being rapidly proceeded with, that the dam capable of storing 5,000,000 gallons of water was completed, and that a valuable discovery of water had been made in one of the shafts which was now yielding 5000 gallons a day. There were at present in sight 3,000,000 loads of wash dirt available for treatment, and from exhaustive tests the returns would be 1 carat of diamonds and 1 dwt. of gold to the load. Prospecting on the Proprietary's claims, which comprise about 800 acres, had proved that more than two-thirds are diamondiferous and gold bearing, and at a depth of 200 feet in a prospecting shaft the bottom of wash dirt had not been reached. It is expected that the washing with present machinery will be started about June next. A parcel of cut and uncut diamonds from the Proprietary was exhibited at the meeting, and were pronounced to be of fine quality.—*The Age.*

THE CONSOLIDATED TRUST (LIMITED).

The seventh annual general meeting of the stockholders in the Consolidated Trust (Limited) was held on Monday, at Winchester House, E.C., Mr. A. A. Baumann presiding.—In moving the adoption of the report, the Chairman said the revenue for the past year was £37,414, made up as follows:—Cash received for dividends and interest, £33,048; commissions, trustees' fees, and transfer fees £2559, and on the accrued interest account there was a balance of £1807. The directors now proposed to declare dividends on the First Preferred stock at the rate of 4 per cent. per annum, and on the Second Preferred stock at the rate of 5 per cent. for the half year ended April 15, thus making 4 per cent. on both classes for the year. In regard to the splitting of the preference stock, which took place during the year, this step had been quite justified when the marketable value of the two classes was considered. A depreciation account had been opened since the last meeting and the sum of £105,000, the amount by which the deferred stock had been reduced, was carried to this. Other items had been also written down.—Mr. Heseltine seconded the resolution, which was carried, and the dividends recommended were declared.—The retiring directors (Messrs. A. A. Baumann and Claude Bishop) were re-elected, as also were the auditors (Messrs. Price, Waterhouse, and Co., and Messrs. Ford, Rhodes, and Ford

LATEST FROM THE MINES.

CABLEGRAMS AND TELEGRAMS.

ALASKA MEXICAN.—Cablegram from Alaska reports the clean-up for the month of April, as follows:—"Period since last return, 30 days; bullion shipment, $21,365; ore milled, 6458 tons; sulphurets treated, 126 tons; of bullion there came from sulphurets, $7304; working expenses for period, $14,319."

ALASKA UNITED.—The following cablegram has been received from the manager of the mine:—"Cut into vein in tunnel 700 feet, mine looks well, assays average $6·75 per ton."

ANGLO-CHILIAN NITRATE RAILWAY.—Gross traffic receipts during the month of April £6000, corresponding period in 1895 £11,000. In explanation of the above, the decrease is mainly due to the stoppage of some oficinas in March and April in order to ascertain their quotas under the combination. The aggregate traffic in 1896 to end of April is £42,000 against £41,000 for the corresponding period in 1895.

APPANTOO GOLD.—During April, mill crushed 575 tons quartz, yielded 407 ounces gold.

BAYLEY'S REWARD No. 1 SOUTH.—The following cable, dated the 13th instant, has been received by this company's London office from its head office at Melbourne:—"110 ounces, 140 tons."

BRILLIANT BLOCK.—The directors have received the following cablegram from the head office in Charters Towers:—"Have crushed (during the month) 1861 tons of quartz for 943 ounces of gold." The approximate value of this return is £3250.

BROWN HILL EXTENDED.—At a board meeting held on Wednesday the following calls were made:—5s. a share payable June 1, making 15s. paid; 5s. a share payable July 1, making shares fully paid.

BLOCK B. LANGLAAGTE. — Production for April. By cable.—"Mill. Stamps running, 75; ore crushed, 8330 tons; gold retorted, 2378 ounces.—Tailings, cyanide process. Tons treated, 3530; gold recovered, 471 ounces.—Concentrates, cyanide process. Tons treated, 186; gold recovered, 304 ounces; total gold recovered, 3153 ounces."

BRILLIANT AND ST. GEORGE.—The following cablegram has been received from the directors in Charters Towers:—"Have crushed during the month 1296 tons of quartz for a yield of 1893 ounces of gold. Have declared a dividend of 6d. per share payable on the 22nd inst. The approximate value of this return is £6550."

CAYLLOMA SILVER.—A cable has been received from the mines reporting the production for April was 9500 ounces fine silver in export ores and 11,750 ounces fine in bullion.

CLYDE.—The following cable has been received from the manager:—"There is a vein in Bobby Burns' shaft that assays 13 ounces per ton. By this you will see most excellent returns can be regularly sent. Machinery received, erecting mill at once."

COLOMBIAN HYDRAULIC.—Cablegram from the mine gives the result of run No. 207 as follows:—"We have cleaned up after washing 900 hours since the previous clean up. The gross returns are £1150; the net profit is £100." Secretary's note.—The exceedingly high cost is accounted for by the necessity of moving the mine pipe on men's shoulders from the north side of the mine to the present point of operations. The superintendent reports that very good gravel is showing up where work is now being carried on.

CROWN REEF.—Results for April. Yield in smelted gold from 120 stamp mill, 6699 ounces; yield in smelted gold from 120 stamp cyanide works, 4799 ounces; total, 11,498 ounces.

CARLYLE.—The Hon. Maurice Hume-Black, director of the company, has forwarded the following cablegram from the mines:—"Perth, W.A., May 11: The whole of the work that has been done is most satisfactory. Crushing work will be commenced July 1. There is nothing to prevent the work of mining and milling from being carried on throughout the year."

CONSOLIDATED BELLINGWE.—The following cablegram has been received from Mr. D. Tyrie Laing, manager, dated May 13:—"All well here; the loss to the company will be small."

CROWN REEF.—Results for April, received by cablegram from Johannesburg:—"Number of days working 120 stamp mill, 28 days 14 hours; crushed by 120 stamp mill, 17,346 tons; yield in smelted gold from 120 stamp mill, 6699 ounces; yield in smelted gold from 120 stamp cyanide works, 4799 ounces; total, 11,498 ounces.—Working expenditure and revenue. 120 stamp mill and cyanide works, 17,346 tons milled; to mining, transport, milling, cyanide, general charges, maintenance, and mine development, £21,929; profit for month, £16,324; by gold account, 6699 ounces from 120 stamp mill, £23,224; 4799 ounces from 120 stamp cyanide works, £15,029; total, £38,253. —Revenue per ton crushed, £2 4s. 1·27d.; cost per ton crushed, £1 5s. 3·41d.; profit per ton crushed, 18s. 9·86d.

CITY AND SUBURBAN.—Last month's crushing yielded 7835 ounces

CASSEL COAL.—A cablegram just received gives the output for the month of April as 26,500 tons, profit £5500.

CHAMPION REEF (Nannine, W.A.).—Translation of cable received from Mr. R. Ford, the local secretary, and dated Melbourne, May 11:—"The developments and workings from various drives continues in pay ore superior battery stone; the size of reefs unknown the whole width of the drives. Machinery, have commenced carriage by wagon."

CHALLENGE GOLD ESTATES.—The company is advised by cable of Mr. Robert Collins' arrival at Perth, W.A., on his way to take over the management of the company's mines.

CUDDINGWARRA.—The following cable has been received:—"Golden Gate lease: Crushed 52 tons, obtained 115 ounces of gold.—Missing Link lease. Crushed 12 tons, obtained 70 ounces of gold."

DARIEN.—The directors have received the following cable from the mine:—"Crushed 493 tons, obtained 1200 ounces of gold."

DE LAMAR.—The following is the cabled return for the month of April:—"Crushed during the month, 4058 tons; bullion produced by the mill, $57,785; estimated value of ore shipped to smelters, $4300; miscellaneous revenue, $645; total produce, $62,730; total expenses, $37,555; profit for the month of April, $25,175, or, at $4.90 to £ sterling, £5138." Captain Plummer cabled on the 4th inst.:—"Labourers and miners have struck for higher wages; everything quiet;" and to-day:—"Aspect of affairs is unchanged."

FERREIRA.—Copy of cablegram received from Johannesburg, May 11:—"Results for April. Crushed, 9212 tons; bar gold extracted, 8210 ounces; concentrates caught, 200 tons; assay value of concentrates 7 ounces fine gold per ton, equal to (say) 1400 ounces.—Cyanide works. Bullion produced from tailings, 2609 ounces; total gold from all sources, 12,219 ounces."

GEORGE GOCH AMALGAMATED.—The following cable is to hand:—"9558 tons crushed, yielding 2468 ounces, and from tailings 1894 ounces."

GOLCONDA.—Extract of cablegram received from mine manager, dated Cue, May 11:—"We have cleaned-up after a run of 488 hours, 480 tons, 1100 ounces. An average sample of the tailings assayed 7½ dwts. per ton."

GELDENHUIS ESTATE.—Copy of cablegram received from head office, Johannesburg:—"Last month's (April) profit was £4600."

GULLEWA.—The following cable has been received from the company's agents in West Australia:—"The whole of the machinery has arrived. Pushing forward as fast as possible. Mines looking well; much pleased with appearance; lode opening up well; am fully satisfied with it."

HANNAN'S MOUNT FERRUM.—Cablegram states: "The title of the leases is good. The leases have been transferred to the company or its nominees, registered free from encumbrances, and possession given."

HAMPTON GOLD FIELDS.—Cablegram, dated May 8, which refers to the rich find made on Block 53, Hampton Plains Estate, by the prospecting party of the Hampton Gold Fields (Limited) and the Swan Syndicate (Limited):—"Craze has returned from Majors; brought in rich ore. Reports the reefs on the property amount in number to two. There are shafts sunk on the vein varying in depth from 3 feet to 8 feet, exposing reefs varying in width from 2 feet to 3 feet, each carrying payable gold. Estimate western reef 3 feet wide, and assays 5 ounces. The vein can be traced for more than ¼ mile along the surface. I consider it a most valuable property. Have sent full particulars by letter."

HARQUAHALA.—Some difficulty has been experienced in successfully treating a small portion of the tailings beds at Harquahala, necessitating the stoppage of the plant for about 10 days, but operations have now been resumed.

JUBILEE.—Last month's crushing yielded 1775 ounces from 5250 tons. Tailings 710 ounces.

KABOONGA.—Cablegram for month states:—"Rise completed. Shall proceed to open up north-west and south-east. Main drive is now in 570 feet."

KINSELLA. - Cable from mine manager, May 9:—"Output for April. Ore mined, 700 tons; ore treated, 700 tons; bullion recovered, 270 ounces; mines and mills expenses, £1025; plant and other expenses, £300; estimated value total bullion, £1000; mill ran, 22 days. There is a steady improvement in the value of the ore from the stope at No. 2 winze, No. 21 section, since clean-up."

KAPANGA.—The directors have received the following telegram from the manager, viz.:—"Shaft has been sunk 5 feet for the week. Have intersected a band of iron pyrites in the shaft."

LUCKY GUSS.—The directors have received information by cable that bad weather had hindered work. It is expected to strike the Orpha May lode any day. The hoisting machinery will be completed on the 16th inst.

LA YESCA.—The following cable has been received from the manager:—"Clean up May 5; mill ran five days; 32 tons crushed; result, 840 ounces silver; expect to start mill again on 25th inst."

LANGLAAGTE ESTATE.—Production for April. By cable. "Mill. Stamps running, 160; ore crushed, 20,483 tons; gold retorted, 6092 ounces.—Tailings, cyanide process. Tons treated, 12,760; gold recovered, 1348 ounces.—Concentrates, cyanide process. Tons treated, 476; gold recovered, 1562 ounces; total gold recovered, 9002 ounces."

LE CHAMP D'OR FRENCH.—The following cable has been received from the manager of the mine at Johannesburg:—"During the month of April mill worked 27 days, crushed 6300 ounces, yielding 2517 ounces. Cyanide treated 3500 tons, yielding 843 ounces. Total 3360 ounces."

MAINLAND CONSOLS.—The following cablegram has been received from Mr. Charles Kaufman, the consulting engineer:—"Resident manager reports by telegram trial of machinery next week. Shall commence crushing May 26."

MENZIES GOLD REEFS PROPRIETARY.—The local director (Mr. John Reid), who is at present on a visit to the property, cables from Menzies to the following effect:—"The general results of my inspection are very satisfactory. Now making rapid progress. Mine recent developments quite satisfactory. The mill is first-class work. Propose starting regular crushings on June 2. Water pipe line completed in fortnight."

MENZIES GOLD ESTATE.—The following cable has been received from the mine to-day:—"Have struck rich ore at the bottom of No. 2 shaft Aurelia, showing fine and coarse gold. The width of the reef is 2 feet, and appears to be going down. Have commenced sinking on other two leases."

MALACATE MINING AND SMELTING.—Manager at the mine has cabled as follows:—"The furnace has been started and is running most satisfactorily."

MOODIE'S.—Cable, dated May 14:—"Claims rented, 499; tons crushed, 1844, yielding 940 ounces."

MYSORE GOLD.—The directors have received the following telegram from their superintendent, viz:—"Have struck the lode 1360 feet level north of Rowse's shaft assaying 1 ounce 6 dwts per ton, width not yet determined."

MAY CONSOLIDATED.—The following cable message, dated Johannesburg, May 9, has been received at the London office:—"The yield of gold during the past month of April was 3119 ounces from 11,000 tons crushed. Mill running 25 days. Cyanide 1204 ounces from 8000 tons; total for month, 4323 ounces."

MONTANA. — The directors received the following particulars from Mr. R. T. Bayliss, subsequent to the issue of the April return on the 6th instant:—"Return was an unexpectedly low one, and was caused by south stopes not turning out as well as was expected. Hope to improve return this month."

MYSORE.—Telegram from the superintendent:—"Have struck the lode 1360 feet level north of Rowse's shaft, assaying 1 ounce 6 dwts. per ton, width not yet determined."

NEW HERIOT.—Last month's crushing yielded 6011 ounces.

NEW QUEEN.—Cablegram dated Charters Towers, May 9, gives result of crushing for past fortnight as follows:—"197 tons yielding 135 ounces gold. Grindings are not yet completed. No. 1 formation, workings very discouraging, and we intend to stop after our next clean up if the returns do not improve. No. 5 formation, 50 tons yielding 31 ounces gold. Vein is fully 3 feet wide. East level, think it will improve. Have drawn on you for £900."

NEW CHARTERS TOWERS.—A cablegram received from the local directors intimates that the ore recently struck assays 2 ounces 12 dwts. per ton, that the lode improves with each foot sunk, and that the average width of ore is 2 feet 6 inches.

90-MILE PROPRIETARY.—The agent cables:—"120 tons put through the mill gave 154 ounces refined gold, exclusive of tailings." The cable goes on to state that the working of the mill exhibits great want of care and management. Mr. Smith, late of the White Feather Reward, has been appointed manager, and it is expected that everything will be running smoothly shortly.

PRINCESS ESTATE AND GOLD.—Result of working for April:—Crushed, 2770 tons; gold won, 1260 ounces; extracted from tailings, 411 ounces; total, 1671 ounces.

PALMAREJO.—Returns for April:—Worked 1550 tons, producing $30,500; expenses, $34,000.

QUEEN CROSS REEF.—The directors have received the following cable from head office:—"Have declared a dividend of 6d. per share, payable May 20." The transfer books will be closed until 21st instant.

ROBINSON GOLD.—Production for April. By cable.—"Mill. 120 stamps at work; 13,505 tons of ore crushed: yielded in smelted gold, 10,118 ounces; from concentrates (by chlorination), 750 ounces; from tailings (cyanide process) 2216 ounces; from own ore, 13,084 ounces; from concentrates bought (by chlorination), 2059 ounces; from slimes, 784 ounces; total gold recovered, 15,927 ounces; profit for the month, £27,500."

ROODEPOORT UNITED MAIN REEF.—Crushing for April:—7634 tons produced 3141 ounces; cyanide 820 ounces; total 3961 ounces. Profit £5500.

SALISBURY.—Last month's crushing yielded 2850 ounces.

SHERLAW'S GOLD.—The following cable has been received from Mr. Sherlaw, dated May 11:—"Have cleaned up after crushing 76 tons for 163 ounces. The ore in sight will last three years; same quality as last. Mills are idle for want of water. Negotiations are going on for the acquisition of sufficient water."

SOUTH MOUNT LYELL.—The London agent has received the following cablegram from Melbourne, dated 14th inst.:—"Have received telegram from mine: Struck solid hematite south tunnel. Description Muir's report."

ST. JOHN DEL REY.—A telegram from Mr. Chalmers at the mines states the borehole has reached the water in the old excavations, and that the pumping and baling operations are going on satisfactorily."

SIMMER AND JACK.—The following cable has been received from South Africa:—"Crushed 13,235 tons, obtained 5491 ounces of gold from mill, 653 ounces of gold by chlorination and 2496 ounces of gold from tailings by cyanide during the month."

TALISMAN.—Copy of cable received from the consulting engineer, Mr. A. Spencer Ellam, dated May 2:—"Miers, our mechanical engineer, hopes to start battery in July; the mine is looking well."

UNITED GOLD REEFS.—The following cable has been received from the manager in reference to the 30 tons crushed at the company's battery, and sent to a neighbouring mill for treatment:—"Clean-up during next week."

VAN RYN.—Production for month of April by cable:—"Mill. Number of days working, 23; number of stamps, 50; tons milled, 3600; number of ounces recovered, 1173.—Cyanide works: Number of tons treated, 3730; number of ounces recovered, 412; total amount gold recovered, 1585 ounces. The condition of the battery is very defective, therefore we are putting low grade ore through the mill. Tailings old and poor."

VICTORIA AND QUEEN.—The directors have received the following cable from head office:—"We have declared a dividend of 1s. per share, payable May 22." The transfer books will be closed until 23rd inst.

VICTORIA AND QUEEN.—The London agency have received the following cablegram from the head office, Charters Towers:—"Have finally cleaned up after crushing 109 tons quartz, gross yield 514 ounces of gold. Rock boring machinery has been bought. This makes a total crushing of 624 tons, yielding 1941 ounces of gold."

VICTORIA GOLD MINING ASSOCIATION.—The following cablegram has been received at the office:—"284 tons crushed yielded 480 ounces gold."

VICTORIA REEF.—The following cablegram, dated May 9, has been received from Messrs. F. W. Prell and Co., the company's agent in Australia:—"Have discovered another reef on the property. The width of the reef is 2 feet. A valuable prospect. The mine looks splendid."

VICTORIA REEF.—The following cablegram has been received from the company's agents in Australia:—"Almost all the machinery delivered (at) Freemantle. A thorough mechanical engineer sent by mail to erect the machinery."

WAIHI GRAND JUNCTION.—The manager cables May 9:—"Grand Junction engine shaft is down 261 feet. Waihi West prospecting shaft crosscut is driven 249 feet."

WENTWORTH.—The following cablegram has been received from the superintendent at the mines:—"Four weeks' return total 780 ounces of gold (approximate value, £2860) named; 615 tons of ore have been crushed, yields 596 ounces; and 6 tons of rich crude ore have been shipped, containing 184 ounces. The alterations we are now making are temporarily preventing our access to the best ore stopes."

WOLHUTER.—Crushing for April: 10,127 tons produced 3041 ounces. Cyanide produced 1737 ounces. Total, 4778 ounces.

WOODSTOCK (New Zealand).—The mine manager announces by cable that, as anticipated in his last three reports, the No. 3 level of the Maria lode has now cut the Hauraki shoot of rich ore already met with in the higher levels. He states that the lode is 5 feet wide, and that the ore is worth £9 per ton or about double the average value of this lode for the last few months.

YALGOO PUBLIC BATTERY.—The manager reports by cable:—"Britannia lease: Have discovered another reef on the property; width of reef, 2 feet, at a depth of 6 feet. Now prospecting. Reef looks encouraging. The whole of the reef shows traces of gold."

NEW ISSUE.

PETERSEN'S WATER-TUBE BOILER COMPANY (LIMITED).

As stated in our advertisement columns, the capital of this company is £220,000 in shares of £1 each, the prospectus of which will be issued on Monday next. There is undoubtedly a most promising future for water tube boilers, and there will be in the immediate future a great demand for them, especially for the new vessels of our Navy, for, in accordance with the Right Hon. G. J. Goschen's speech when introducing the Navy Estimates in the House of Commons, it is the intention of the Admiralty to use them for the higher class of battleships. In our advertisement columns it is announced that the Petersen boiler is highly suitable for land purposes, and that it is regarded as exceptionally safe and practically non-explosive. All joints are without difficulty made metallic and dry and steam-tight, and will stand the highest pressure required without leakage, all expansion being thoroughly provided for. By the special feed arrangement, and the rapidity of the circulation, the boiler does not scale injuriously under ordinary conditions. The tubes require less cleaning from soot and ashes, even when the boiler is in action, than other boilers. This boiler is suitable for burning all kinds of fuel, coal, coke, oil, or wood, with ordinary induced or forced draught. The experiments upon the boiler have shown that the steam from it is absolutely dry, and that there was no priming whatever. Steam can be raised from cold water to 150 lbs. pressure in from about 20 to 30 minutes, a most important tactical advantage in war ships.

REPORTS FROM THE MINES.

BRITISH MINES.

LEADHILLS.—W. H. Paull, May 11: Brown's vein. The vein in the 160 fathom level, driving north of Jeffrey's shaft, is 3½ feet wide, chiefly composed of quartz and stone, and yielding good stones of lead ore at times. In the winze sinking below the 145 fathom level, a short distance ahead of this level, the vein is 6 feet wide, producing 50 cwts. of lead ore per fathom. The vein in the 160 fathom level, driving south of Wilson's shaft, is 3 feet wide, showing less spar and unproductive for mineral. The stopes above the 160 fathom level are yielding about their usual quantities of lead ore. In drifts (two) above the 115 fathom level south of stopes the vein is producing a little lead ore, but not enough to value as yet. The vein in stope below drift over the 100, south of Wilson's shaft, is worth 30 cwts. of ore per fathom. In the 85 fathom level driving south of Wilson's shaft the vein is 4 feet wide, containing spar and a little iron pyrites, but without lead ore. In stope over this level south of Wilson's shaft the vein is worth 30 cwts. of ore per fathom. The stope above the 70 fathom level south of Wilson's shaft is producing 40 cwts. of ore per fathom. In stope above the 50 fathom level south of Wilson's shaft the vein yields 45 cwts. of lead ore per fathom.—Raik and Highwork veins. In crosscut east at the 100 fathom level the ground is hard and stiff for exploring, and occasional sparry joints are being met with. The 100 south of crosscut on Raik vein is still soft and unproductive. In same level driving north of crosscut the vein yields occasional stones of lead ore, and well mixed with spar.—Brown's vein. The 100 fathom level west is being continued, and a vein 4 feet wide, containing a strong mixture of spar and good patches of lead ore, worth at present 10 cwts. per fathom. All other points of operation are without any change of note.

POLBERRO.—May 13; I am now making very active preparations to sink to the 62, and hope within three months from this date to be there, and to cut the lode at that depth, in accordance with the provisional instructions of the committee. The lode at the 50 maintains its size and value, and everything indicates still further improvement near at hand.—(Signed) John Harper.

WEARDALE LEAD.—Report on Weardale Lead Mines for the week ending May 9: Groverake. 60 fathom level east, sparry vein but continues poor in ore, end worth 4 cwts. per fathom. Tribate ore for the week returned at 14 2-8 bings.—Boltsburn. North flats in Watt's level worth 30, 30, 26, and 8 cwts. per fathom. South flats worth 36, 24, 30, 28, 16, 18, and 16 cwts. per fathom. Vein stopes worth 20 and 12 cwts. per fathom. Proving north flat below level, no further sinking done; we are now enlarging and taking out sides.—Greenlaws. Watson's drift, driving suspended at present, the vein looks bad and divided.—Races drift. Vein continues about 4 feet wide, but rather poorer, and worth 14 cwts. per fathom. Stope worth 16 and 20 cwts per fathom. — Slaty Hazel drift. Stope worth 12 cwts. per fathom.—Lowe's drift. Vein is better to drive, but still divided, worth 10 cwts. per fathom. Stopes worth 14 and 12 cwts. per fathom.—Quarry level. We have been cutting over to the part of vein which carried the ore, worth 8 cwts. per fathom. Stope worth 8 cwts. per fathom.—Sedling. Driving 64 level east in the middle part of vein, which is composed of rider and spar, and a little ore. Stopes worth 10 and 10 cwts. per fathom. Stopes above 56 level east worth 12, 16, 12, 10, and 12 cwts. per fathom. Ore raised for week, 55 tons. Ore dressed for week, 47 tons. Ore and slag smelted for week 61 tons, producing 33 tons of pig lead.

WEST KITTY.—May 14: The rise in back of the 84 fathom level west of Reynolds' shaft is worth £8 per fathom. The 72 driving west of Reynolds' shaft is worth £7 per fathom. The 60 driving west of Reynolds' shaft is worth £8 per fathom. The rise in back of the 60 fathom level west of Reynolds' shaft is worth £8 per fathom. The shaftmen at Thomas's are sinking below the 60 fathom level. The 60 fathom driving east at Thomas's shaft is worth £11 per fathom. The stopes and tribute continue to yield the usual quantity of tin.—(Signed) Joel Hooper, John Williams.

COLONIAL, INDIAN, AND FOREIGN MINES.

LAKE VIEW SOUTH GOLD MINE (W.A.).—Abstract of mine manager's report to March 25:—Shaft No. 4. Shaft work discontinued for present, and we are crosscutting east to total of 20 feet from plat; ground consists of hard sandstone.—100 feet level. Gold shows all along in the stripping.—Surface work. Battery covered in, and work progressing. Circular saw working to supply timber for battery and condenser. Fair progress making with latter.—(Signed) Wm. Oats.

HANNAN'S OROYA.—Mine manager's fortnightly report to March 25.—Oroya main shaft, 107 feet level. East crosscut extended 21 feet, total 68 feet; have driven through the lode 25 feet, but this is at an angle, should judge that it would be 15 feet direct across. The lode carries gold right through have started to drive south on the course of the lode, nice gold is showing in the face of the drive. —Western crosscut extended 17 feet, total 28 feet, the ground is becoming easier to work, have cut a leader about 9 inches in width, which is carrying gold. This shaft is being divided to make proper footway, and I am also making preparations to erect a storeroom on this lease so that any very rich stone may be bagged and stored away.—Royal Mint west. No. 1 shaft drive on leader has been extended 12 feet, total 32 feet. There is no change to report. Shall drive north to ascertain the value of lode in that direction.—Prospecting shafts. In respect to trial shaft advised in my last report as having been sunk 6 feet, this has been continued 12 feet, totalling 18 feet. Good prospects still obtainable by water assay. Another shaft on same lode, and about 150 feet north of the previous one, has been sunk 12 feet. The lode is 2 feet wide, carrying gold, and has every appearance of making in width as depth is obtained.—(Signed) Wm. Oats.

PROSPECTORS OF MATABELELAND. — The following are extracts from letters and reports: — Electric property.—From Mr. R. R. Needham (general manager), dated November 18. In the new shaft we have portions of the reef which pan, according to Mr. Lawrence's estimate, about 6 ounces, and from other portions results estimated by him at about 1 ounce.—From Mr. R. R. Needham (general manager), dated December 2. Mr. Dixon, who is in charge of the mining operations on this property, is further sinking on the new shaft and informs me that the reef continues most promising, showing good gold and indications of increasing value.—From Mr. H. L. Lawrence, M.E., dated December 2. I think the Electric a property of promise. I may, of course, take a little time to locate the pay ore, but on the other hand we may hit upon it in No. 1 shaft at once. The proximity of the Electric reef to the town of Buluwayo enhances its value greatly. —From Mr. R. R. Needham (general manager), dated December 9. Work progressing on shaft No. 3, and the reef looking exceedingly well; at the depth reached, exceptionally rich stone which I am now having assayed.—From Mr. H. L. Lawrence, M.E., dated December 14. The average sample of the reef, taken carefully over the whole width from the surface down to 17 feet, assays 1 ounce 12 dwts. to the ton.—From Mr. R. R. Needham (general manager), dated February 14. The main shaft is now sunk to 57 feet, and we are now in very hard formation. The reef at the bottom is widening, and there is now every indication that lode is a permanent one. I brought away with me yesterday some very rich specimens, and the general average of the reef for the distance sunk should be at least 1 ounce to the ton.—From Mr. H. L. Lawrence, M.E., dated February 24. I beg to report on your Electric property as follows:—The main shaft has been sunk to a depth of 60 feet. The average assay value of the reef down to this depth is 1 ounce 2 dwts. 12 grains to the ton, over a width of 18 inches.—Shamrock property. From Mr. R. R. Needham (general manager), dated December 9. Since writing you last week we have received the assay returns of our Mavin properties from samples by Mr. Lawrence. He will be forwarding his report either by this or next mail. In No. 1 shaft, opened up to a depth of about 30 feet, and exposing a reef about 4 feet wide, the assay return from fair samples taken is 3 ounces 2 dwts. . . . Another assay, from a 30 feet shaft, exposing the reef about 12 inches wide, gives an assay of 6 ounces 7 dwts.—From Mr. H. L. Lawrence, M.E., dated December 11. This property is situated about 18 miles from the town of Gwelo. . . . The property comprises 120 claims. A series of quartz vein is distinctly traceable throughout the property. . . . On the westernmost block a shaft has been sunk on a reef about 2 feet wide. The shaft is about 30 feet deep, and an average assay gave 3 ounces 2 dwts. to the ton. On block No. 4 from the west an underlie shaft has been sunk to a depth of 30 feet on a reef somewhat north of the main series. This reef dips about 45°. The reef near the surface is about 2 feet wide, and narrows down to 9 inches in the bottom. There may possibly be another branch underfoot, however. The ore is composed of quartz, stained with iron oxide, and carries galena. The assay of quartz which I took from the bottom of the shaft is 6 ounces 7 dwts. 12 grains to the ton.—From Mr. R. R. Needham (general manager), dated January 18. No. 2 shaft has been sunk to a depth of 64 feet on the reef. At 70 feet I have given instructions, in accordance with Mr. Lawrence's desire, to drive on the reef in the direction of a very large old working. At the present level reached, pannings show a largely enhanced prospect on surface indications. The reef in this shaft has a fairly regular width of about 2 feet, and the general prospect of this shaft is most promising. . . . He (Mr. Harvey) is also prospecting around one of the old shafts, where we have discovered most excellent quartz, showing an unusually (for this district) large amount of free gold; in fact, in pannings, a tail of gold almost round the pan.—From Mr. R. R. Needham (general manager), dated January 27. Since writing you this morning I have received a communication from our mine manager at the Mavin. In No. 1 shaft Shamrock in driving the reef at about 70 feet, we have struck very rich gold. The manager says:—"It had the best prospects I have seen in this country. . . . It is a very good thing; you don't want to have this reef assayed; plenty of gold in the pan." In the crosscut in the shaft we have struck another reef about 12 inches thick, and which pans well.—From Mr. R. R. Needham (general manager), dated February 2. As I wrote you last week, I have heard that an exceptionally good strike has been made in the lower level on the Shamrock property. This has been further confirmed by a wire received from the contractor.—From Mr. R. R. Needham (general manager), dated February 9. Briefly, the Shamrock is looking splendid, three distinct reefs are opened up, all looking well. One which has generally been known as the Shamrock reef has been opened up for a length of 80 feet on the first level (50 feet perpendicular, about 70 feet on the reef), and right through estimate will run at least 1 ounce, probably 1½ ounce to the ton. Some stuff runs 8 to 10 ounces. An equally rich reef has been struck in No. 3 shaft at a depth (perpendicular) of about 55 feet. Both shafts are now being vigorously pushed forward to the 100 feet level, already by far the best opened up property in this part of the country.—From Mr. R. R. Needham (general manager), dated February 14. . . . However, it was apparent (judging by ancient workings) that the richer gold would most probably be found in the western end. At this end two or three shafts had been sunk, in one of which a good reef was exposed, and assay of this quartz showing over 3 ounces to the ton. . . . As I informed you in my letter of January 18, this shaft (No. 1) was sunk to 50 feet, a crosscut put in, and at 13 feet the reef struck. At the point where the reef was found, although exhibiting fair pannings, was not very promising. Driving was commenced east and west, and within a foot from the crosscut on the west side a wonderfully rich vein was struck, showing pannings estimated at 5 ounces to the ton. The drive was continued, and for a distance of about 20 feet continued to show exceedingly rich quartz; a barren patch was then reached, but, after a few feet more driving, a rich shoot was again struck, and which exists up to the point to which the western drive is carried (about 40 feet). In the eastern drive the quartz was poor for a few feet, and then become rich, continuing so for some distance; in fact, at about 20 feet from the crosscut, some quite substantial little nuggets were taken from the quartz. . . . The reef is solid, averaging about 2 feet 6 inches wide, and has every appearance of permanency. Harvey judges, taking the whole of the reef as exposed in these drives, that it will run certainly not less than 1 ounce to the ton, and probably nearer 1½ ounces. . . . About 250 feet to the north (and slightly to the east) of No. 1 shaft is a very large old working. To the south of this old working Harvey put down a shaft, and at a depth of 55 feet struck a reef about 2 feet 6 inches wide, and carrying exceedingly rich gold. It is evidently the same reef that had been worked nearer the surface by the ancients. . . . As I before stated, this portion of the property is just one network of old workings, and it is evident that there are an immense number of reefs, which, judging from their richness as we have struck them, must make this ground of enormous value. It is a matter of great satisfaction that the reefs are improving in value as greater depths are reached. . . . The work that has been done is of a really good and permanent nature, and compares very favourably with the work executed on other properties in the district. Not only is the work of a more permanent and substantial description, but I am of the opinion that the nature of the development proves the property in a greater degree than that accomplished on any property in the neighbourhood, not excluding the much talked-of Eileen. I should be very sorry to exchange the Shamrock for the Eileen on what is shown in its developments. . . . If the directors desire it, I anticipate that within three months I can have the western portion of the Shamrock property developed to such an extent that it can be termed a mine, and will be amply ripe for flotation as a subsidiary company, or, if they so desire, it will be ready for the erection of stamping power. This portion of the property is exceptionally well situated for a mill, being within half-a-mile of the Gwelo River, in which there is a large supply of water the whole year round, and is approached by an easy gradient. In addition, there is a splendid supply of timber for fuel purposes.—Mavin main Reef, from Mr. R. R. Needham (general manager) dated February 14. The incline shaft on this reef has been sunk to a depth of 55 feet. The reef is now fully 3 feet wide, and is looking most promising, in fact the pannings improve every foot in depth.—Waverley property. From Mr. R. R. Needham (general manager), dated December 2. This reef is being sunk on, and it is most probable that if present prospects continue this property should be actively developed, and I think will prove one if not the most valuable of the company's holdings.—From Mr. R. R. Needham (general manager), dated December 9. The assays returns are very satisfactory, one portion of the reef (about 2 feet across) giving 1 ounce 17 dwts.—From Mr. H. L. Lawrence, M.E., December 11. This property is about a mile from the Shamrock and comprises 40 claims. A strong lode runs through the property showing in places two distinct parallel crops. About the middle of the property a shaft has been sunk to a depth of 30 feet behind the reef and a crosscut put out to tap same. It is over 3 feet wide and assays:—On the footwall for 3 feet, 1 ounce 16 dwts. per ton. For the middle 3 feet 12 dwts. per ton. On the hanging wall for 3 feet, 2 dwts. per ton. This is a very promising body and I have given orders to sink on it a little in order to ascertain its dip and direction, when I will at once set out a permanent underlie shaft.—From Mr. R. R. Needham (general manager), dated January 18. A winze has been sunk (on the reef) in No. 1 shaft for 10 feet to further prove the dip, and which appears to be almost perpendicular. The reef at this depth from the surface (40 feet) is fully 3 feet wide, and appears as rich as ever, carrying visible freely. . . . The present appearances make it most probable that this will prove an exceptionally valuable property.—General. From Mr. F. B. Grey (director), dated March 14. As regards the prospectors of Matabeleland, I cannot speak too highly of the way in which Needham has tackled the work, I was surprised to find the amount of development he had got through on the Shamrock and Electric reefs. Mr. Lawrence, the engineer, thinks both these are going to turn out payable reefs, and certainly, from what I have seen, I think them most promising, and, if they keep as they now look, we shall be fortunate, as you have a large number of claims on each of these reefs. When it comes to a question of floating off portions of our properties into gold mining companies, please impress upon the directors that 20, or at the outside 30, claims are enough for any gold mining company, and that we should look for our large profits by holding the extensions. For instance, in the Shamrock, in which we hold 120 claims, there is enough for six companies that could be floated off one after another at increasing figures, as the claims already floated are developed. Mr. Lawrence is first-class, and I consider we are very fortunate in securing his services.

ARROW PROPRIETARY.—Abstract of mine manager's fortnightly report to April 8: Gaul section, Foucher's shaft. The 100 feet drive north extended to total 217 feet. Lode increased in size and yield, owing to its approach to Brookman shaft, where it is 24 feet wide. Shall resume sinking this shaft and hope to intersect water at 20 feet.—Brookman's shaft. The 100 feet level north communicates with south drive from main shaft, giving good ventilation, and opening this part. Started crosscut east from this shaft so intersect Barrow's shaft, and lode is advanced 14 feet. When Barrow's shaft is required depth shall crosscut west from it to hole with this drive. The winze sinking from 60 feet level has holed with crosscut west at 100 feet level. The lode for the whole depth produced gold in paying quantities.—Main shaft. Owing to south drive communicating with Brookman's shaft there is nothing special to mention. Barrow's shaft sunk to total of 80 feet, and the shaft had to be timbered owing to heavy rains, thus causing decrease in speed of sinking.—(Signed) Wm. Hambly.

BALAGHAT MYSORE.—Thomas Richards, April 29: Report for the fortnight ending April 25: Ogle's shaft. The 270 south (near the south boundary) has been driven 20 feet 8 inches, total distance from the crosscut east 381 feet 6 inches. The quartz is 6 inches wide, and assays 1 dwt. 23 grains of gold per ton.—Haines' shaft. The 410 feet level north crosscut east has been extended 2 feet 3 inches, total distance 71 feet 9 inches. At this point the footwall of the lode has been reached, and the men have been removed to follow the lode northward from the north end of the old workings at this same level.

CENTRAL BOULDER.—Mine manager's report of progress for fortnight ended March 26:—Main shaft has been sunk an additional 33 feet, making a total from surface of 58 feet. A frame set has been placed in position at the 50 feet level, and a start made to timber up and centre off the ladder way. The ground is still very favourable for sinking. No. 1 shaft sunk 8 feet, total depth from brace 110 feet. A plat is now being cut preparatory to opening out on a level with the 100 foot in the main shaft. I am calling tenders for extending a drive 100 feet along the reef towards the main shaft, and when this contract is completed, I will resume sinking the shaft down to 200 feet. At the 100 feet level in the main shaft I will open out and connect with the drive from No. 1 shaft. This connection is necessary both for the systematic development of the property and ventilation. During the last few feet of sinking in No. 1 shaft, the stone broken carried very fair gold and showed every indication of a still further improvement and it is evident a shoot of very good stone has gone down underfoot. This will be picked up later on when sinking is resumed.

MYSORE REEFS (Kanguniy).—Mine report for fortnight ending April 19: Underlie shaft. This shaft has been sunk 7 feet, now 120 feet 6 inches below the 425 feet level. The quartz is 1 foot wide, assaying 6 dwts. 16 grains of gold to the ton. Intermediate level 60 feet below the 425 has been extended 13 feet 6 inches, now 73 feet 6 inches from shaft. The quartz is 2 feet wide, assaying 10 dwts. 21 grains of gold to the ton.—Stope above this level. The quartz is 1 foot 6 inches wide, assaying 8 dwts. of gold to the ton. 425 feet level north has been extended 11 feet, now 210 feet 6 inches from shaft. I am pleased to say this end has improved during the last week The quartz is 1 foot 6 inches wide, assaying 1 ounce 5 dwts. 3 grains of gold to the ton. Winze below the 425 feet level north has been sunk 4 feet, and is communicated with the intermediate level below. The quartz has been 2 feet wide, assaying 2 ounces 3 dwts. 9 grains of gold to the ton. Stope below the 425 feet level north, the quartz is 1 foot 6 inches wide, assaying 1 ounces 17 dwts. 16 grains of gold per ton. Vertical shaft has been sunk 7 feet now 14 feet 3 inches from surface. The quartz is 1 foot wide, assaying 1 ounce of gold to the ton. Crosscut east of the 260 feet level has been extended 13 feet 6 inch now 69 feet from level. Trial shaft to the east of New North shaft has been sunk 3 feet, now feet from surface. The quartz is 1 foot wide, assaying 11 dwts. of gold to the ton.

ST. DENIS GOLD.—Mine manager's report, dated March 27:—Lease No. 1462, Sinking suspended at depth of 51 feet from surface, put in platform 10 feet from bottom and opened out crosscut which cut the reef with 5 feet of driving. This crosscut is now in 15 feet, and still in lode; the western or footwall is very hard, and there appears to be a large body of stone. Since cutting the lode the influx of water has been very heavy, fully 3000 gallons per day.—Lease No. 1407. Crosscut extended 30 feet, total 42 feet from shaft. At 10 feet the drive apparently went through a part of the reef, but am continuing expecting to meet with the other part of it.—Lease No. 1931. The drive has been extended a further distance of 10 feet, total 49 feet from shaft. Leaders of quartz were met with, but not gold bearing, and the men have now been put to drive along the reef that was struck at 25 feet. This drive is in 3 feet on a fine body of stone with smooth well defined walls.—Shaft at south end. The drive commenced at 39 feet is now out 25 feet, and expect it will need to go 20 feet further before intersecting the reef. When sinking the shaft I had wished to go about 20 feet deeper where it would not have been necessary to crosscut so far for the reef, but the influx of water prevented us going below 39 feet.

YERRAKONDA.—Mine report for fortnight ending April 23: South shaft. This shaft has been sunk 10 feet, making a total depth of 19 feet 6 inches below the 255 feet level. The lode is 3 feet 6 inches wide, assaying 7 dwts. 16 grains of gold to the ton. The shaftmen have also been engaged during the past fortnight cutting cistern plat under the 255 feet level. We shall now fix the cistern and take up all the water we possibly can at this level. When this is completed greater progress of sinking may be expected. 255 feet level south has been extended 19 feet, making a total distance from shaft of 198 feet 6 inches. The lode in this end is 3 feet wide, composed chiefly of quartz assaying 4 dwts. 8 grains of gold to the ton.

NINE REEFS.—Mine report for fortnight ending April 27: Oriental lode. Main shaft. This shaft has been sunk 11 feet, total depth below the 910 feet level is 39 feet. The lode is 5 feet wide, carrying about 2 feet of quartz, its assay value being 2 dwts. of gold per ton.—310 feet level north. This has been driven 22 feet, total length 149 feet. Lode is 5 feet wide, composed of quartz, arsenical pyrites, mixed with black rock, assaying 1 dwt. of gold per ton.—310 feet level south. This has been driven 14 feet 6 inches, total distance from Baynard's shaft 181 feet. The lode is 4 feet wide, composed of quartz, arsenical pyrites with stringers of black rock throughout, assaying 2 dwts. 14 grains of gold per ton.—New water shaft. This has been sunk 15 feet in very hard rock. Water increasing.—Surface work. Masons are now engaged in building new tank. All other surface work is progressing in the usual way.—Health. The health of the camp continues good.

TYNE VALLEY COLLIERY (Transvaal).—The manager reports that the coal met with in the shaft upon the recently-acquired additional area consists of 4 seams, measuring respectively 3 feet 8 inches, 11 feet, 3 feet, and 11 feet 9 inches, total depth of shaft being 158 feet. Coal is splendid steam coal.

WEST BOULDER.—Mine manager's report of progress for fortnight ended March 25.—On the 23rd inst. I cabled you stating that on account of water it would be very expensive sinking with present appliances and asking your permission to crosscut and connect all three shafts at the 100 feet level. If the country between these shafts were only prospected I am satisfied that good results would ensue. Pending a reply to my cable I will continue the crosscuts at the 100 feet level in both No. 1 and No. 2 shafts.—No. 1 shaft, 100 feet level. Started a crosscut east towards No. 3 shaft, and this is now in 18 feet from the chamber. We have been driving through lode matter the whole distance, and it is evidently the same formation as that opened at the 70 feet level, though much stronger and more settled. Assay taken throughout show only traces of gold, but this would in all probability improve if driven upon a similar formation in this district have been proved highly auriferous.—No. 3 shaft. The contractors have sunk this shaft down to the 100 feet level, and are now engaged in timbering up. When completed I will call tenders for 200 feet of cross cutting towards No. 1 shaft to connect with the crosscut coming east. A continuation of the Ivandoe lode passes between these two shafts. It is, therefore, highly important that these crosscuts should be driven without delay.

WESTRALIA AND EAST EXTENSION.—The mine manager reports as follows:—No. 1 shaft. This has reached a depth of 100 feet from the vertical. The level will be driven north in due course.—Water shaft. We have now commenced to sink on the course of the lode below the first level. Sinking in this important shaft will be carried on with the greatest possible dispatch. We are now 5 feet below the first level. The lode is 2 feet wide, and yields 2 ounces per ton.—No. 3 shaft. 3 feet has been sunk during the week.—No. 4 shaft. 14 feet has been sunk during the week making a total depth of 63 feet from the surface.—Blow shaft. The lode here is 3 feet 3 inches wide and worth 10 dwts. The outlook is more pleasing and the lode has a more healthy appearance.

FOR CONTINUATION OF REPORTS SEE PAGE 634.

NORTH BRITISH AUSTRALASIAN COMPANY (LIMITED).

A special extraordinary general meeting of shareholders in the North British Australasian Company (Limited) was held on Wednesday, at Winchester House, for the purpose of passing resolutions increasing the capital of the company by the creation of 15,761 new ordinary shares of £1 each, ranking equally with the existing ordinary stock of the company, and any ordinary shares that might hereafter be issued by it.—Mr. G. H. Hopkinson moved the resolutions, which were duly seconded and carried unanimously without discussion.

THE United Mines Ore Reduction Company (Limited), 1, St. Helen's-place, E.C., inform us that on and after Monday, May 18th, the offices of the above company will be removed from the above address to more commodious premises situated at Montagu House, 64, Gresham-street, E.C.

WE understand that the same syndicate which has successfully accomplished the reconstruction of the Dunlop Pneumatic Tyre Company has just purchased the great Singer business at Coventry for the sum of £1,000,000 sterling.

THE RIO TINTO COMPANY notify that at the first half-yearly drawing of their 4 per cent. bonds, 1895, to be held on the 1st proximo, bonds amounting to £26,720 will be drawn, to be paid off at par on July 1.

ANCIENT MINING:*

WITH ESPECIAL REFERENCE TO THAT CARRIED ON IN GREAT BRITAIN.

By A. COOPER KEY (*Student*).

IT was the first intention of the author to confine his remarks to the subject of mining in Britain by the Phœnicians and Romans, but the small amount of material which was brought to light on an investigation of the character of our insular operations in the first place, and the intense interest centred in old time mining by the Phœnicians, Greeks, Egytians, and Romans in various parts of Europe, Asia, and Africa, in the second place, has induced him to enlarge the scope of the paper. On the subject of Roman mining there is a singular dearth of evidence, as in almost any historical book one may study extensive references will be found to their roads, fortresses, walls, bridges, cities, aqueducts, and other works, but that most important industry, mining, is dismissed in a short paragraph, if even it is accorded that amount of attention. It has been the object of the author to consolidate and condense all the facts which he has been able to gather regarding the mining operations of the ancients, in this communication, subject to the limits of a short paper.

1. *Egyptian Surface-working and Mining.*—In the first instance only such metals as were found on the surface were worked, and the necessity for mining operations did not arise until the open-cast were works unable either (*a*) to supply any ore at all, or (*b*) to supply sufficient ore to satisfy the demand. But it is probable that mining is only slightly younger as an art than the gathering of surface deposits.

There is evidence of the mining operations of the Egyptian kings of the fourth, fifth, and twelfth dynasties respectively, about the years 2500 B.C., 2400 B.C., and 2000 B.C. Even before this, namely, in 3000 B.C., it is recorded that the Kings Shetra and Chefu made themselves masters of the copper mines of the Sinai peninsula.

At two places between Suez and Mount Sinai, at Wady Magharah, and at Sarabit-el-Khadim, shafts sunk in the rocks have been discovered by modern travellers. By means of these, copper was extracted in the times of, and under the auspices of, the early Pharaohs. As regards the use of iron and steel in Egypt, we have the following evidence:—Belzoni, about the year 1820, found an iron sickle (which is now in the British Museum) at the foot of one of the sphinxes at Karnak, and, it being clear that it could not have been deposited in recent times, he believes that "the blacksmith's art was well understood and practised in Egypt about 600 B.C." Further discoveries have also been made of iron, which is thought to have lain there for 5000 years, in the solid masonry of the Great Pyramid. We are told by Mr. Napier that "iron and copper mines are found in the Egyptian Desert which were worked in old times; and the monuments of Thebes and some of the towns in the neighbourhood of Memphis, dating more than 4000 years back, represent butchers sharpening their knives on a round bar of metal attached to their aprons, which from its blue colour can only be steel."

Respecting the source of the metal, although the authority above quoted mentions iron mines, it has been ably argued on philological grounds that the iron used, at any rate in the more remote periods, was of meteoric origin. The two statements are, of course, quite reconcilable. Iron tools are mentioned by Herodotus as being used in the carving of the hieroglyphics in the hard stone of the Egyptian monoliths and monuments. We are told by Rawlinson that gold abounded in Ethiopia. Professor Englehardt says that "Egypt below the cataracts contained no gold mines, but on the eastern side of the Nile were gold mines which were worked in the times of the Ptolomies (232 and 42 B.C.) and were probably also known to the Pharaohs. Cosmas, who visited Ethiopia about the year 535 A.D., mentions the country bordering on Abyssinia as being very rich in gold.

The localities indicated by these authors are in the district between Suakin and Berber, and are named the Bisharée Desert, approximately lat. 20° N., long. 35° E. Set I. (Sethos), who flourished about 1320 B.C., was apparently the first to work these gold areas; but neither he nor his son and successor, Rameses II. (B.C. 1311-1245) was very successful, as, owing to the scarcity of water in this sterile district, both his men and beasts died on the journey. An account of the Bisharée mines, written about 170 B.C., tells us that the toil of extracting the gold was immense, and that it was separated from the pounded stone by frequent washings. This process is depicted on some of the ancient tombs of the early Pharaoh. The mines in question were explored in 1868 by Linant de Bellefonds, who has written an elaborate description of them.

2. *Mines in Asia.*—There is little doubt that in Eastern Asia, the Hindukush, and also in the islands of the Indian Ocean, there existed tin mines supplying Egypt, Assyria, and Babylon. As to their definite location there is hardly any evidence, and any conclusions which have been drawn rest on a very slender basis. Great antiquity is claimed for the manufacture of iron in China. In a Chinese records, which from internal evidence is believed to have been written 2000 years B.C., iron is mentioned, and in other ancient record both iron and steel are referred to. In India, at the ancient mosque of Kutub, near Delhi, it is stated there is a wrought iron cylindrical pillar, 60 feet long, 16 inches diameter, weighing about 17 tons. From the inscriptions upon it, it is believed to be of a period 9 or 10 centuries before the Christian era. The acquaintance of the Assyrians with iron is established by the relics—picks, hammers, knives, and saws made of iron, brought from Nineveh by Mr. Layard, and now in the British Museum. The saw came from the north-west palace at Nimroud, and it is computed that it could not be later in date than 880 B.C., though it is possibly considerably earlier. Dr. Phillips considers that there is no evidence to show whether these implements originally consisted of iron or steel.

3. *Phœnician Mining.*—The Phœnicians undoubtedly derived their knowledge of mining from the Egyptians, and practised it in their own country, which, however, was poor in its mineral resources, no metal of importance existing there save iron. In seeking riches they were, therefore, driven away from their own country, going gradually farther and farther afield. Their journeyings will now be noticed. The first place to which they turned their attention was "the island," *i.e.*, Cyprus. Here they worked copper in the southern mountain range near Thamasus. Ancient workings have been noticed by travellers near Thamasus and Soli. These workings were not described by the old writers, nor have they been subjected to modern scientific exploration. The derivation of the word copper is from Cyprus, for this metal was called *æs Cyprium*—brass of Cyprus—by the Romans, and, the first word having been dropped, it became Cyprium, then Cyprum, and, finally, Cuprum.

* A paper read before the first Students' Meeting of the Institute of Mining and Metallurgy.

(*To be continued.*)

TUNNELLING BY COMPRESSED AIR.*

By E. W. MOIR, M.Inst C.E.

TUNNELLING operations are being carried on so extensively in London and other large cities, that I trust a description of some of the latest developments may interest the members of the Society of Arts. The growing populations and the great distance to be traversed in our large cities demand some better and more rapid means of transit than is possible upon our already over-crowded streets. This end can only be attained by mechanical traction, which, as far as the country is concerned, is at present contrary to law upon the surface of the roads, except under restrictions which annul its advantages. There are, therefore, only two alternatives open to the engineer—viz., to make overhead railways, such as are at present in use in New York and Liverpool, along the public streets, or have them underground. The first suggestion would never be tolerated in any of the main thoroughfares of our large cities, and there remains but the second, or the making of the highways below the surface. Our rivers, too, are such important highways of commerce that bridges, except at high levels, or with opening spans which obstruct both the river and the road, cannot be permitted. Here, again, the engineer is met with a limited choice—an opening bridge, a high level bridge, or a tunnel. Generally speaking, a tunnel, as it does not obstruct like an opening bridge, and permits easier gradients than a high level bridge, is to be preferred where impervious cover can be found, or where the maximum depth from the surface of the water to the bottom of the pervious strata does not exceed 85 feet, or a water pressure equivalent thereto.

I do not intend to go into the history of the tunnelling from its commencement, which would occupy too much time. I shall confine my remarks to "shield-driven" tunnels, which date from the time of Brunel; that genius whose name will always stand among the greatest of our engineers. In a patent dated 1818 Brunel proposed to make a shield driven circular tunnel lined with cast-iron segments, the shield to be forced forward by hydraulic jacks abutting against the castings, which it overlapped and slid upon, as does the cap of the telescope slide upon the tube which forms the body. When he commenced his great work, the first Thames Tunnel, he did not, however, adopt this form, which, he states, he would prefer, for the reason, no doubt, that cast-iron was too expensive a material in those days; and even at the present time it is more expensive than brick lining of equal strength. He, therefore, adopted bricks and mortar, making two tunnels side by side, in a mass of brickwork. His shield was built of sections, which were moved forward by means of screws, which did not throw so much strain upon the new brickwork as would hydraulic jacks. Each section of the shield was moved forward separately, the material surrounding it being supported the while upon timber, which was held in place on the two adjoining frames. Brunel did not use compressed air, although the idea seems to have been suggested to him by Admiral Cochrane (afterwards Lord Dundonald), who took out a most complete patent in 1830, covering its use in tunnelling in water-bearing strata. Brunel's tunnel, although a success practically, was not so financially, and for a great number of years subacqueous tunnelling fell into disrepute.

The next attempt to tunnel the Thames—and a successful one—was made in 1869, when the Tower Subway was constructed, with Mr. Peter Barlow engineer, and Mr. J. H. Greathead as contractor. It was a very small tunnel, 6·7 feet in diameter, being for the use of foot passengers only; but it is remarkable, as being the first shield-driven, cast-iron lined tunnel. It was driven 1350 feet through London clay, and, including the sinking of the shafts, was finished in less than 12 months, reflecting great credit on all those connected with it. It is also of interest, as being the first tunnel in which cement grout was forced into the circular space between the lining and the larger excavated space formed by the shield. Six screw jacks abutting against the completed cast-iron lining were used to push the shield forward. No compressed air was required or used. In 1870, a man named Beach constructed a shield composed of timber and iron, and drove a small piece of tunnel under Broadway, in New York City, and also in Cincinnati, The lining in this case was of brick, but the shield is the first in which hydraulic jacks were used to propel it forward. A hand pump was attached to the shield for the purpose: it is of historic interest on this account.

In 1886, Mr. J. H. Greathead commenced his well-known City and South London Electric Railway scheme. It is the first undertaking in which a shield driven by hydraulic jacks was used in conjunction with compressed air for keeping out the water in pervious soil. The City and South London Railway starts at King William-street with two tunnels of 10 feet 6 inches diameter, side by side. As they approach the Thames they gradually alter their positions until on reaching Swan-lane they are super-imposed, the bottom of the upper being only a few feet from the top of the lower. This very unusual arrangement was adopted so that in passing under the narrow streets, both tunnels were under public property, thereby saving expense. The line ultimately terminates at Stockwell, a distance of about three miles of double tunnel in all. Under the Thames the two tunnels are in London clay all the way. No difficulties were met with, and no compressed air was required. A bed of Thames gravel full of water was entered near Stockwell, and both tunnels were driven about 200 yards through it, pumping if possible being inadmissible on account of the damage it would do to surrounding property, compressed air was resorted to with satisfactory results although with increased expense. The speed averaged 13 feet 6 inches per day at each working face for months at a time in the London clay. Progress was less rapid when the ballast was entered, but even here the speed was between 4 and 5 feet, results unattainable in timbered tunnels. The shields used were 5 feet 11 inches long, being composed of a strong cast iron frame surrounded by a thin plate steel shell ¾ inch thick in two layers. Adjustable steel cutters were fixed on the front end, and a working opening 6 feet by 4 feet 6 inches was provided in the centre of the shield, arranged so that in the case of necessity it could be closed with timber. Six hydraulic jacks, 6½ inches in diameter, were connected with a hand-driven pump attached to the shield for pushing it forward. A heading having been driven in advance of the shield, and the clay excavated roughly to its shape, it was pushed forward 20 inches at a time by means of the jacks. The rams were then drawn in by the same pump, and a cast iron ring, composed of six segments and a keypiece, erected and bolted together under the hood which overlapped the last completed ring, holding up the superincumbent earth. After the shield had been pushed, there remained an annular space surrounding the castings which required filling up. Hydraulic lime, which sets in a few minutes, was used, and was injected through holes cast in the plates for the purpose by Mr. Greathead's patent grouting apparatus. The lime was mixed with water to the consistency of thick cream, in a closed pan, and was stirred by revolving paddles until it commenced to get hot, when air at a pressure of about 50 lbs. per square inch was turned on to the pan, and forced its contents between the clay and the lining, where it set quite hard almost immediately. The castings, being but light, were erected by the men without the aid of any special lifting appliance, such as is necessary in larger tunnels of the same class.

Two American examples of cast iron lined shield-driven compressed air tunnels are the Hudson Tunnel in New York, and the St. Clair Tunnel, between the United States and Canada, under the St. Clair River. They are both of special interest, but time will only permit of a short notice of them. The Hudson Tunnel was commenced in 1879, and is the first tunnel in which compressed air was used, although, as already stated, it was suggested by Admiral Cochrane in 1830. It was driven entirely through soft river mud or silt, so fluid that it will flow through a slit ½ inch wide for weeks against a pressure little less than the hydraulic head. About 2000 feet were driven by means of compressed air, and what is known as the pilot system of tunnelling, invented by Mr. Andersen, a Swede, and first applied in the Hudson Tunnel by him. Very good progress was made by this means, but as the tunnel was extended further under the water and approached nearer the river bed, the silt became more fluid, and the air pressure necessary to keep it back at the bottom was more than the reduced depth of mud above would stand, and several blow-outs occurred. It became necessary, therefore to introduce the shield and cast iron lined system to make further progress, and in 1889, on the recommendation of Sir John Fowler and Sir Benjamin Baker, and Mr. Greathead, Messrs. S. Pearson and Son were intrusted with a contract for carrying on the work, some fresh capital having been raised in England, and I represented them upon the works. The shield, which weighed about 80 tons, was put together 2000 feet out from the Jersey shore of the river, under a pressure of over 35 lbs. per square inch above the atmosphere. It was a very difficult job, having to be rivetted up by unskilled men, but it was ultimately got to work, and made good progress until financial difficulties again beset the company. During the 12 months that the shield was working, however, nearly 1900 feet were constructed under an air pressure of 30 lbs., and as much as 72 feet of completed tunnel were fixed in one week. Out of 5500 feet in all, there only now remain some 1600 feet to complete to make a connection between New York and Jersey City, and there is no doubt that money will be forthcoming some day to finish this work, which cannot fail to be an important connecting link between New York and the mainland, from whence nearly all the main western trunk lines start.

(*To be continued.*)

* Paper read before the Society of Arts, May 13, 1896.

COMPANY FINANCE.

Reports, Balance Sheets, Dividends, &c., of Mining and other Companies.

DEVON GREAT CONSOLS.

The report of the directors states:—At the last annual general meeting the shareholders were informed of the great damage done by the floods, followed by the severe snowstorms and frosts, and at the last half-yearly meeting attention was again called to the heavy expenditure necessary in the repairs of the large water wheels, &c., which, during the severe winter, had to be worked with extra speed to drain the workings throughout the mines, and the strain on these wheels, which were for weeks covered with ice, was very great. The damage done to the flues and works generally was considerable, and the results proved even worse than appeared at the time from the continued collapsing of portions of the flues after the fires were lighted. The revolving calciner, which had been at work for some years, requiring extra repairs was for weeks idle. A new boiler house and chimney attached thereto at the mill have been built and paid for, and other additions and repairs have been effected. From what the shareholders have been informed during the last 12 to 18 months they can readily see the great difficulties and anxieties the local management and the directors have had to surmount, both as regards the loss of time and lack of returns. In consequence of all these unforeseen and unprecedented troubles, the quantity of arsenic manufactured and the amounts received have been of course much less. During the last 12 months improved prices for arsenic and copper ore have been obtained, with every prospect of still higher prices. Recently some important improvements have taken place in the mines both as to copper ore and mundic production, and the directors feel assured that, having overcome the numerous difficulties already mentioned, the forthcoming 12 months will show a much more satisfactory account.

HEIDELBERG GOLD MINES.

A circular to the shareholders says:—"Since the date of my last circular I am pleased to say that the development work at Heidelberg has been proceeding in a most satisfactory manner. Our general manager has recently returned from the mines, and has brought with him samples of the banket reef from the various shafts. These have been assayed by Messrs. Johnson, Matthey, and Co. (Limited), and the following is a copy of their certificate:—Assay Offices and Ore Floors, Hatton Garden, London, E.C., April 21. Certificate of assay for the Heidelberg Gold Mines (Limited). We have assayed the samples of minerals as under, and find the following to be the result:—No. 1. Produce of gold, 10 dwts. 12 grains; No. 2. Produce of gold, 3 ounces 0 dwts. 6 grains; No. 3. Produce of gold, 1 ounce 7 dwts. 12 grains; No. 5. Produce of gold, 1 ounce 18 dwts. per ton of 2240 lbs. of mineral. (Signed) Johnson, Matthey, and Co. (Limited). The above numbers correspond to those by which the shafts are known."

CAMDEN SYNDICATE (LIMITED).

The second ordinary general meeting of the shareholders in the Camden Syndicate (Limited) was held at Billiter Buildings, E.C., on Wednesday, when Mr. W. A. Harper, who presided, in moving the adoption of the statement of accounts, said the principal object of the company, when it was formed a year ago, was to acquire certain patents for the treatment of sulphide ore, a suitable site for the erection of smelting works, and to obtain the command of a suitable coal supply for these works; also to secure this site in such a position that water would be available in large quantities, and that the position for the works would be such that ores and minerals required for the processes could be conveniently brought to them and shipped away when turned into bullion. These objects having been accomplished, the Smelting Company of Australia was formed. In addition several mining companies had been purchased, some of which were already proving valuable investments. The object of the syndicate having been carried out, it was now proposed to wind it up voluntarily, and to sell all the assets not immediately realisable to a new company, to be called the Camden Exploration Company, and to have a capital of £250,000. The new concern would have the opportunity of securing several other valuable mining properties in New South Wales, the ores from which would be required by the smelting company, already promoted by the syndicate.—Mr. J. Fleming seconded the resolution, and it was agreed to.—Subsequently an extraordinary general meeting was held, when resolutions for the voluntary winding up of the syndicate and the formation of a new company, to which certain assets would be sold, were carried.

C. PASS & SON (Limited), BRISTOL,
ARE BUYERS OF
LEAD ASHES, SULPHATE OF LEAD, LEAD SLAGS,
ANTIMONIAL LEAD, COPPER MATTE, TIN ASHES, &c.
and DROSS or ORES containing
TIN, COPPER, LEAD, AND ANTIMONY.

HENRY WIGGIN & CO. (Limited),
NICKEL AND COBALT REFINERS,
MAKERS OF BEST RED LEAD FOR FLINT GLASS MANUFACTURERS,
BIRMINGHAM.

LAMBERT'S WHARFAGE CO.,
PRINCE OF WALES DOCK, SWANSEA.
Ores, Mattes Regulus, and Bars received and prepared for market. Copper, Lead, Tin, Spelter, and Pig Iron Received, Weighed, and Sampled, and Warrants issued against same.
N B.—Warrants are on Accepted List of London Metal Exchange.
Regular lines of steamers from America, Europe, &c.
Good prices can be obtained for low produce Copper Ores. Send air samples of not less than half a pound.

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(MACARTHUR-FORREST PROCESS).
All information and terms regarding Plants and the Licensing of this Process can be obtained on application to:
THE AUSTRALIAN GOLD RECOVERY CO. (Ld.), 23, College Hill, London, E.C.
JAMES R. FOWLER, Esq., 14, King William Street Adelaide; or
GORDON WILSON, Esq., The Australian Gold Recovery Company (Limited), Charters Towers, North Queensland.
AGENTS FOR THE CASSEL GOLD EXTRACTING COMPANY'S MANUFACTURES OF HIGH GRADE CYANIDE.

COAL FIELDS OF THE NORTH-WEST OF CANADA.
THE UNDERSIGNED would be glad to correspond with YOUNG MEN with CAPITAL open to develop the above.
Samples and full particulars may be seen at the office of this Journal.
W. HENRY, 24, Smith Street, Winnipeg, Canada.

PLACER GOLD FIELDS OF ECUADOR.
PLAYA DE ORO MINING COMPANY.
AT the request of certain English stockholders, we have arranged to keep in constant telegraphic communication with the head office of this company in New York, and can furnish full information and the latest reports regarding these mines, and, if desired, can cable any inquiry for immediate reply.
MAGUIRE, BAUCUS, and STAPLETON,
Dashwood House (Ground Floor),
9, New Broad Street, London, E.C.

COMPANIES AND LEGAL ANNOUNCEMENTS.

***** Advertisements are inserted in this column at the rate o 9d. per line. with a minimum charge of 7s. 6d.**

PIGG'S PEAK DEVELOPMENT COMPANY (LIMITED).

NOTICE IS HEREBY GIVEN, that the TRANSFER BOOKS will be CLOSED on TUESDAY, the 19th inst., for one day only, in order that the List may be settled for the Call of 6d. per Share, due on the 10th June next, on Shares numbered 1 to 200,000, which are now 18s. 6d. paid up. After the 19th inst. no Transfer of these (partly paid) Shares will be received unless the above Call is paid (making them 19s. paid up). Shareholders are at liberty to pay up in full on their Shares, but no interest will be allowed on such payments.

By Order of the Board,
WILLIAM SMITH, Secretary.

4, Sun Court, Cornhill, E.C.,
11th May, 1896.

MASON AND BARRY (LIMITED).
(SAN DOMINGOS MINE, PORTUGAL.)
DIVIDEND.

NOTICE IS HEREBY GIVEN, that a DIVIDEND for the year ending 31st December, 1895, at the rate of 2s. 6d. per Share, free of Income Tax, was declared at the Ordinary General Meeting held this day, the same being Payable on and after THURSDAY, the 21st inst., at the Offices of the Company, 87, Cannon Street, London, E.C.

The Holders of "Share Warrants to Bearer" must leave (coupons "series No. 4") for examination four days previous to payment, between the hours of Eleven and Two, on any day except SATURDAY.

Coupons may be presented after to-day, and must be listed on the Company's printed Form, obtainable at the Company's Office.

By Order,
JOHN G. BARRY, F.C.A., Secretary.

Offices of the Company:
87, Cannon Street, E.C., 11th May, 1896.

EASTER GIFT PROPRIETARY GOLD MINES (LIMITED).

The statutory meeting of the shareholders in the Easter Gift Proprietary Gold Mines (Limited) took place on Tuesday, at Winchester House, E.C., when Colonel A. Haggard, D.S.O., who presided, stated that they had ample working capital in hand, besides keeping a good deal of capital in reserve. The reports they had received from the mine were of a very satisfactory nature. The quartz bore the appearance of being heavily laden with gold. A good water supply had been secured, and altogether the prospects seemed very encouraging.—Captain Bissenberger, the mine manager, said the property was of considerable extent, and on the western side there was a large ironstone outcrop similar to that found at the Great Boulder. The reef was at present 2 feet 6 inches wide, and averaged from 3 ounces to 4 ounces a ton. When the water shaft was being sunk a lode was struck at 80 feet, and he estimated the value of this to be about 2 ounces to the ton. About 100 yards to the east of this a shaft had been driven 30 feet, and in a drive 30 feet in length rough coarse gold could be seen. Then again to the south there was an opencutting 10 feet by 10 feet, containing a quartz reef over 6 inches wide, and worth 1 ounce per ton. Six leaders had been opened on the Easter Gift Extended block, and all were found to carry good gold. He was convinced that in about 12 months the mine would give a good account of itself.—A vote of thanks to the Chairman and Captain Bissenberger concluded the meeting.

The Mining Journal,
RAILWAY AND COMMERCIAL GAZETTE:

An Illustrated Record of Mining, Metallurgical, Railway, Financial, Industrial, and Engineering Progress.

ESTABLISHED IN 1835.

THE MINING JOURNAL, RAILWAY AND COMMERCIAL GAZETTE, published every SATURDAY MORNING, price SIXPENCE, is recognised throughout the World as being the oldest, most influential, and most widely circulated Journal devoted to the interests which it represents. It circulates

ALL OVER THE WORLD,

Amongst Mine Owners, Capitalists, Investors, Mining, Metallurgical Engineers, Manufacturers, &c., &c.

THE MINING JOURNAL, RAILWAY AND COMMERCIAL GAZETTE has correspondents and sources of information in almost every quarter of the globe. Its policy is absolutely independent; its circulation is cosmopolitan.

THE MINING JOURNAL is neither controlled, nor is any interest in it held or exercised, by any mine owner, speculator, or syndicate; and it is in no way connected with any share-dealing agency.

TO CORRESPONDENTS.—Letters on Editorial Matters, or containing literary contributions should be addressed to "THE EDITOR." All matter intended for insertion must be written on *one side of the paper only*. The return of rejected manuscripts cannot be guaranteed. The Editor invites correspondence and items of news or information from readers in all parts of the World.

TO SUBSCRIBERS.—The Annual Subscription to THE MINING JOURNAL, including postage, is for:—

The United Kingdom, £1 4s.;
Abroad, £1 8s.;

payable half-yearly in advance. It can be purchased at all Railway Bookstalls and Newsagents throughout the United Kingdom for 6d.

TO ADVERTISERS.—The followin; is an abbreviated Scale of Charges for Advertising:—Companies' Prospectuses, £12 12s per column, or £20 per page; Companies' or Legal Announcements, 9d. per line, with a Minimum charge of 7s. 6d; Sales by Auction, Publications, For Sale, Wanted, &c., &c., 6d. per line with a Minimum charge of 4s.

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*** ADVERTISEMENTS (which should in all cases be sent direct to THE BUSINESS MANAGER) can now be received for the forthcoming issue of THE MINING JOURNAL, RAILWAY AND COMMERCIAL GAZETTE, on FRIDAY, at 18, FINCH LANE, E.C., up till 6 p.m., and at 3, DORSET BUILDINGS, SALISBURY SQUARE, E.C. until 9 p.m.

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18, FINCH LANE, LONDON, E.C.

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CONTENTS

Of this Number of "The Mining Journal, Railway and Commercial Gazette." May 16, 1896.

LONDON: MAY 16, 1896.

THE REGULATION OF COAL PRODUCTION.

IN a pamphlet of some 150 pages, entitled "La Réglementation de la Production du Charbon," Mr. LEWY has been attempting to meet the objections which have been raised at the various Miners' Congresses to his proposals for the regulation of the coal output. As Mr. LEWY says, his views were first brought into public notice by means of an interview with him published in *The Mining Journal*. We must, however, emphatically protest against his statement that "*The Mining Journal* is a capitalist newspaper, and the Editor was afraid lest, at first sight, the scheme might appear too radical for its regular readers." Mr. LEWY is entirely and utterly wrong in every portion of this sentence. First and foremost, we have always had and hope always to maintain the courage of our opinions. If any scheme whatever, be it whose it may or what it may, provided only that it concerns matters of importance to mining, or to the affiliated industries, comes before us, we deal with it to the best of our abilities, without fear or favour, and in any case we should never for a moment have so low an opinion of the intelligence of our readers as to hesitate to lay before them anything of deep interest for fear it might prove distasteful to them. On the contrary, we know and they know, that if anything whatever is afoot that might prove injurious to their real or fancied interests, the best service we could do them is to bring it fully to their knowledge.

Again, *The Mining Journal* is not a capitalist newspaper in the sense in which Mr. LEWY uses the phrase, if, indeed, in any. We do not write for any one class, but for all, and our object is to promote, as far as lies in our power, the interests of the mining industry and of the community of miners. And it is because we take our stand on the broadest platform that we refuse to admit that the interests of masters and men are as divergent as Mr. LEWY would have us believe, in this country at any rate. We have said more than once, and we repeat, that their interests are identical, inasmuch as both classes aim at the improvement of the industry—in the special case now before us—of the coal trade. Men are not antagonistic because they attempt to reach the same goal by two different roads. Obviously each class tries to make the best possible terms for itself, whilst both are striving together to a common end, but it requires a very narrow mind not to see that their common interests outweigh their differences. It is, similarly, to the advantage of each individual of the nation to shirk paying taxes if he can; but who will pretend that it would be for the good of the nation if no one paid taxes at all? Miners and owners have to bear a common burden, and whilst each, no doubt, is trying to make the other bear the larger share, it is to the interests of both that the burden should be borne. It is Mr. EMILE LEWY'S apparent inability to see that men and masters are, upon the whole, very good friends that forms one of the great elements of weakness in his chain of argument. According to him, let his scheme be but adopted, let the output of coal be but regulated by a joint committee of men and masters, and they will become, he says, most excellent friends. We are glad to say—and anyone who knows British coal mining and coal miners will endorse our statement—that men and masters in this country are excellent friends already, and that the bonds of sympathy are daily growing stronger. The coal trade is passing through hard times, and it is an old saying that affliction makes all men kin. We certainly think that it has caused owners and workers to come into closer contact, and, therefore, to engender mutual forbearance and goodwill. If a case in point is needed, we may refer to the recent stoppage of the Rainton Collieries, to which we have more than once drawn attention in our columns.

But, says Mr. LEWY, the miners of France and Belgium, as soon as they heard of my scheme, were unanimously in favour of it. Of course they are! Mr. LEWY, among other pretty things, promises (page 19) that if only this scheme be adopted, all miners will only do four days' work and receive five days' pay. If French and Belgian miners are simple enough to believe this (and we somehow feel a little inclined to doubt their credulity) of course they are unanimously in favour of the plan, and will continue to be until some other philanthropist comes along and promises them three days' work and six days' pay; and small blame to them. We thoroughly believe that Mr. LEWY is honestly earnest in his desires to improve the statues of the coal miner, and in his belief that his own plan would prove a panacea for the hardships that the coal miner is labouring under. He is thoroughly, and, we believe, genuinely, enthusiastic in the matter, but like all enthusiasts he is illogical, and he is so thoroughly enthusiastic that he does not see how often he pronounces the condemnation of his own scheme. Thus we find an ingenuous admission on page 117, that the adoption of this scheme would raise the price of coal 4 to 5 francs—(say) 3s. 3d. to 4s.—per ton, and this gigantic increase Mr. LEWY talks of airily as a mere trifle, and, according to him (page 74), "the consumer will not object to paying a little dearer for his coal," to oblige the miner. Does he not then know the conditions in which the shipping trade and the iron trade—not to speak of other industries such as the cotton trade—find themselves to-day? He admits, however (page 112), that it will necessarily have to be the consumers of coal who pay for this increase. Now, if we turn back to page 13, we find a reference to a project of Sir GEORGE ELLIOT'S, which Mr. LEWY rightly condemns because it depended on a financial combination *dont le public aurait été appelé à payer les frais*—the cost of which the public would be compelled to defray. Precisely so! Had Mr. LEWY then forgotten his words of 100 pages back, or did his amiable preoccupation in the miners' interests blind him to the fact that he had already himself written the death sentence of his scheme?

The scheme is nowhere set forth in detail in this pamphlet; it consists, as we understand, in a convention between the coal miners of England, France, Belgium, and Germany, to have all their affairs regulated by an international committee. So far so good; if this alone could be done a great step would be accomplished. Further, he wants all the masters and coal-owners to combine with the miners in this central committee, the majority of which is to be composed of miners' delegates. This committee is to have absolute power to regulate not only rates of wages, which might be a good thing, if feasible, but also the selling price and the output of coal from each country, each district, or even, if we understand him aright, each colliery. He holds that if the output were regulated, the selling price and the rate of wages must necessarily follow suit. For the sake of argument, let us admit the possibility of such a committee being formed, and of the further contention that it should have the power to control the output, and thereby to settle wages and prices. Admitting that this committee could prevent a colliery from producing more than the amount agreed upon, it could certainly not prevent a coalowner, whom the conditions laid down did not suit, from closing his pits. In other words, whatever the intentions of the committee, they could not increase the output of the countries named—they could only restrict it. And does anyone believe that it is possible to restrict the output of a number of different collieries, situated in different countries, under widely different conditions, and with different and at times necessarily conflicting interests? If there is a branch of the coal trade in which a restriction of production in

the interests of the producers be possible, it is assuredly the American anthracite trade, in which the coal is produced in a comparatively limited area, the producers are comparatively few, and the demand steady and well assured. But if anyone thinks that a combination to restrict production is possible, let them read attentively a brief review of the anthracite coal trade in 1894, in the last volume of the Mineral Industry. We may even recommend this chapter to Mr. LEWY'S attention. But, says Mr. LEWY, my scheme is not restriction, but regulation; as we have said, we hold that the latter must necessarily imply the former, but let us even admit—still for the sake of argument—that regulation without restriction is possible, and try to see how Mr. LEWY applies it. He wants to make the miner's work uniform, to keep him at work uniformly the whole year round, and to avoid what he calls the present system of periods of excessive work, followed by periods of partial or entire idleness. And he is going to do this by making the production follow closely the demand. Does he then think that the demand never fluctuates? Everyone who knows anything of the coal trade surely knows that apart from its irregular variations, there is always what we may call the secular variation, the increased demand for coal in winter over summer. Seeing that this fluctuation exists, and will continue to exist in spite of all the syndicates and committees of the world, if the rate of production is to be uniform all the year round, it will not follow the demands of the market, as Mr. LEWY pretends. And conversely, if it follows the market, it will not be uniform, but will be, as it is to-day, and as we hold it always will and must be, a fluctuating quantity, regulated by the only standard that does regulate supply—namely, demand.

We hold, therefore, that even if we admitted the practicability of Mr. LEWY'S international combination of miners and masters, and if his committee were in existence, it could no more regulate the coal supply than King CANUTE'S courtiers could stop the rising tide. We have seen too many of these attempts to make "the tail wag the dog," to have any doubt at all of the result. Mr. LEWY'S scheme in its present form cannot succeed. We can, however, tell him what is wanted: let him only induce the coal consumers to enter his international coalition of miners and owners, and the thing is done! And unless the consumers are parties to it, it never will be nor can be done. And seeing that the consumers include the whole world, with the exception of a few Zulus, South Sea Islanders, and so forth, this consideration seems to sum up all that need be said on the subject.

Whilst we have, so far, looked at the matter from an international point of view, it may be well to add a few remarks on the English aspect of the case, not so much with respect to Mr. LEWY'S scheme, which may be put on one side, but with respect to certain arguments which Mr. LEWY uses, and which it may be as well to consider here. He opines that an international agreement between England, Belgium, Germany, and France would suffice to control the coal market, and that America, the Far East, &c., are factors that may be entirely neglected. In the case of France, Germany, and Belgium, this is no doubt true, but does it hold good in the case of England? There is no other country in which the proportion of coal exported bears such an enormous proportion to that of the coal consumed in the country, and those of our coalowners who have seen their Indian trade gradually diminish, and finally disappear, know well enough what the competition of the East has meant, and may mean. True, India does not send any coal to us, but the development of their collieries has made them independent of the home supply, and has closed these markets to us. Already Japanese and Tonquinese coal is being imported into Singapore, and is supplanting the English coal that used to be sent out there. In the case of a general rise in the price of European coal, it is we, in Great Britain, who would be almost, if not quite, the only sufferers, because we are the only nation that has an export trade worth mentioning, and are, therefore, the only people who would feel competition in foreign markets. Moreover, the volume of our export trade cannot be measured merely by the tonnage of coal sold abroad; it must in this connection be taken to mean the consumption of British coal outside of Great Britain. Now, for instance, a steamer bound from our shores for New York will take a supply of coals for the round journey, because English coal is so much cheaper than American that it generally pays a steamer to carry its supply for the home journey with it from here. But if prices in this country once commence to rise, a point will soon be reached—in some exceptional cases it has already been reached—at which it will be cheaper to purchase the coal for the home trip in America. And should the day ever come when it will be cheaper to buy the coal for both trips out of Great Britain, then the day of Britain's decadence will have commenced. What is true of the carrying trade is true of not a few others. When we export pig iron or steel rails, or when we build ships for foreign nations, we are really exporting our coals in another form, and it is only the possession of cheap coal that enables us to furnish these products to other nations less well off in that respect. Iron is a typical case in point, seeing how much ore is imported, whilst, when we sell it even in the form of pig each ton of pig iron represents fully 1¼ tons of coal. In the case of finished iron, machinery, &c., each ton sold represents far more. Our output of copper ore has shrunk to contemptible dimensions, yet our copper markets rule the world, only because we have cheap fuel. The English coal trade is bad to-day because the demand for coal is not brisk enough for the factors of supply. Any movement that tends to level up the prices of coal, to bring the price of British coal up to the price of Continental coal, must necessarily make matters worse for the coal miner here. We have the advantage, not only of our wonderful seaboard, but of our large, regular, and flat-lying coal-seams admitting of economical winning. The former advantage, that of cheap transport, will remain with us; the latter we are gradually losing, as our best seams are exhausted, and as thinner and less advantageously situated seams have to be worked. We can trust to the science of our engineers, to the strength and skill of our miners, to cope with these natural difficulties which we necessarily shall have to meet. But let us not artificially attempt to unduly raise prices, however specious the arguments may be, by which such a rise is urged. Cheap coal has been one of the mainstays of Britain's greatness, and dear coal would mean the ruin of our industrial and commercial prosperity.

THE PLACER GOLD FIELDS OF ECUADOR.

ECUADOR is a region which has hitherto attracted little attention from the English capitalist and investor, but from the information which has from time to time come to our hands, and from the evidence which has been forwarded us of its gold mining wealth, we feel certain that it is destined in the not distant future to be a scene of great activity. It is a great gold placer region, located at the foothills of the western slope of the Andes, in the province of Esmeraldas, in the north-western part of Ecuador, about 40 miles from the coast, and about 1° north of the equator. It appears to be most advantageously situated, and to have near at hand all the essentials for the successful prosecution of the industry. The deposits extend over a great area of some 100 square miles and possibly attaining 200 square miles. The banks of the auriferous gravel vary from 10 to 150 feet in height, and are claimed to assay from 5 cents to $4 per cubic yard in many places, whilst in exceptional positions it has been very much richer. Water in the district is very abundant, the region being traversed by small streams and their tributaries, in addition to which the total rainfall is very great. Like many of the great Californian deposits, these placers were probably the bed of a great river, and there appear to be two distinct beds or benches, the upper of which was the older, the lower one having been formed by the subsequent deepening of the river. The Andes were then uplifted, and the waters, flowing to the sea in a new channel, intersected the old river beds, forming great canons, and leaving the sides exposed. Up to the present these deposits have been exploited chiefly by Americans, the common labour being performed by the native Indians, who are a very peaceful, but not very industrious race. They are at present owned by six companies, the shareholders and directors in which are almost entirely American. These companies have been developing their mines for a period of about five years, and have expended about $1,500,000 in surveying and prospecting the properties, and bringing them to their present state of development. The most prominent company is the Playa de Oro Mining Company, which has already expended over $600,000 on its plant, and is rapidly pushing it to completion. This company, up to date, has received shipments of about 1150 ounces of gold from the washing done, while the construction and development work was progressing. The Cachavi has expended about $100,000 upon its plant, whilst the Ecuador Gold Mining Company is spending money for the purpose of surveying, prospecting, and installing its plants, and, therefore, it has not yet received any returns. These will shortly be followed by the Lower Angostura and the Esmeraldas Gold Mining Companies, whose operations are only in a preliminary state. Timber in the district is, we learn, also abundant, tropical forests covering portions of this vast district. This timber is easily and inexpensively removed, the average cost not exceeding $7 per acre. Much of this can, of course, be used for the construction of the plant, sluices, flumes, and the like. There is also upon the property a large quantity of tropical woods, which may ultimately become no small source of revenue. These mines have been known to the Spaniards for a period of about 200 years. All along the banks of the rivers cuts have been found where the gold has been washed out by the Indians and negroes, and, of course, have been instrumental in assisting the prospector in determining the value of the gravel and the extent of the gold deposits. The methods used by the natives in washing out this gold were of the crudest. The implement used was the batea, or small wooden dish, holding about 10 lbs. of gravel. This gravel they would wash out in a small pool as long as the supply of water lasted. When the water in the pool was exhausted they would wait for another rain to fill it up. This process, of course, was very slow, as it took over 300 bateas for a single yard of gravel. But even by these crude methods a comparatively large quantity of gold has from time to time been washed out of these mines by the natives to supply their necessities. It is evident that these old mines were known and worked by the Incas, mentioned by PRESCOTT, for in washing from the beds in the rivers the miners have frequently found gold fish hooks, nails, gold images, and gold ornaments of every description. Last, but not least, the Government are conscious that great advantage is likely to be derived from the exploitation of these gold mines, and, therefore, when these various properties were acquired they amended the mining laws, exempting mining property, mining machinery, and the output of the mines from taxation from duties for a period of 25 years. In fact, the Government seem extremely anxious to do all they can to assist in making the industry successful and prosperous, and they have even gone so far as to build a telegraph line to the mine at their own expense, thus making possible daily communication by cable between the mines and New York. They have also expressed their willingness to make a new port of entry at Limones, at the mouth of the Santiago River, which will, naturally, greatly facilitate shipments of supplies there, and shipments of gold from the properties. From what has been said, it will be gathered that Ecuador is a country with a future, and that by means of the Playa de Oro and other companies, it is destined to add considerably to the world's output of gold. By far the largest portion of the capital of the former company is held in the United States and Canada. The mine has hitherto been developed solely as a private enterprise, the stock not having been offered to the general public. The company, however, having about 10,000 shares available for the raising of additional working capital for further development work, we understand that it is proposed to offer a portion of this amount to the English public, and the balance in New York.

ONE THOUSAND MILLIONS.

THE Companies Bill has been referred in the House of Lords to a Select Committee. The discussion which took place on the consideration of the question whether the Bill should be examined by a Committee of the whole House, or by a Select Committee, showed that the criticism which we ventured, in our article which appeared in these columns on April 4, to pass upon the Bill on its introduction was not only merited, but very necessary. We drew attention to clauses which appeared to us likely to prevent honest and capable men from undertaking the responsible posts of directors. Especially, also, did we emphasise the section which would make directors responsible unless they disclosed in the prospectus "every material fact which would influence the prudent investor." To ordinary business minds this, in our opinion, is calculated to impose a burden of no fair character, and one that is moreover impractical. The late Lord Chancellor, Lord HERSCHELL, however, appeared to look upon this clause as one which raised no controversy, and suggested that with the view of passing this Session so many at any rate of the provisions as were urgent, the reference of the Bill to the Select Committee should be accompanied with an instruction that they might divide the bill into two parts, and that these provisions might be passed this Session. It was, however, not a little fortunate that the view we had taken was that taken by the Chambers of Commerce of Belfast and the City of Cork, who got the Marquis of LONDONDERRY to act as their spokesman. As Lord SALISBURY pointed out, the very provisions which Lord HERSCHELL, no mean authority, thought provoked little controversy were those which provoked most criticism. That there should be such difference of opinion as to what is controversial in the Bill, and what is not, perhaps illustrates best the difficulty and the danger which accompany the attempt at dealing with the statute law which regulates the joint-stock enterprise of this country, which it is estimated is represented by a paid-up capital of one thousand and thirty-five millions sterling. In approaching the proposed legislation it must not be forgotten that the Board of Trade Committee which recommended the provisions which appear in the proposed Bill admitted that the majority of companies had been honestly formed to carry on legitimate enterprises, and that the business was generally conducted honestly, and with reasonable ability and judgment. The Select Committee consists of the Lord Chancellor (Lord HALSBURY), the Earl of LEVEN and MELVILLE, the Earl of DUDLEY, the Earl of KIMBERLEY, Lord BELPER, Lord HILLINGDON, Lord MACNAGHTEN, Lord MONKTON, Lord FARRER, Lord DAVEY, Lord JAMES, Lord ALDENHAM, and Lord WOLVERTON.

NOTES AND COMMENTS.

THE report of the directors of the Anglo-French Exploration Company (Limited) is in every way satisfactory, and should give unbounded pleasure to the shareholders of the concern. The past year has been a most successful one, and augurs well for the future. After writing off the sum of £17,101 16d. 11d. for ascertained losses and depreciation, the profit and loss account shows a credit balance of £493,444. The sum of £86,999, derived from premium received from sale of part of the reserve shares, is not included in the account, but has been carried to a reserve fund which will be employed in the ordinary business of the company. An interim dividend of 3s. per share was paid in September last on all the ordinary shares then issued, and the directors now recommend a final dividend for the year 1895 of 7s. per share on all the ordinary shares now issued, equivalent to a total distribution of 50 per cent. for the year. This distribution will entitle the founders' shares, under the Memorandum of Association, to a payment of £143 9s. 10d. per share. After making provision for these payments there will remain a sum of £263,477 to be carried forward to the year 1896, exclusive of the amount carried to reserve. This sum appears to be excessively large, and we shall be surprised if the shareholders do not take exception to it, and seek to know why more of it has not been distributed. The directors encourage the shareholders by the statement that a substantial improvement has taken place in the value of the investments and that they are confident that some of these, including one very important venture, will be a source of very considerable profit to the company. But shareholders must not be too sanguine, as many circumstances may arise to upset these calculations.

AN account of the proceedings at the first annual meeting of the Robinson Diamond Company is to hand by mail, and a perusal of it does not by any means make us hopeful of the future of the company. The Chairman endeavoured to speak optimistically of the property, but his remarks were not, in our opinion, supported by any strong evidence, and hence we cannot think that the future is very promising. In fact, what was said at the meeting strongly supports the opinion of our correspondent, Mr. Bush, that the prospects are decidedly unfavourable. During the past year an enormous amount of money has been spent without any encouraging result. The Chairman endeavoured to encourage the shareholders by telling them that the directors had gone very carefully into the *probable* cost connected with working on a scale equal to the treatment of 5000 to 10,000 loads per day, and are advised by the manager and mechanical engineer that it is possible to win the diamonds as low as 1s. 4½d. per load. What is there really encouraging in this statement? Does it demonstrate the value

of the property? What is the use of economical working there are too few diamonds to work? However, the directors are so assured of the value of the mine that they do not hesitate to recommend the expenditure of a vast sum of money to equip it with modern machinery. As this money is apparently guaranteed it would be useless to advise the shareholders not to subscribe it. Time, however, will evidence the value of the mine, and will demonstrate whether our opinion or that of the directors comes nearer to the truth.

THE report of the annual general meeting of the Buffelsdoorn Estate Company, to hand by mail, does not bring evidence strikingly promising for the company's future, and, therefore, our advice to shareholders and others is not to be too sanguine of its prospects. It is true that a great deal of work has been accomplished during the few years of the company's existence, but what is it in comparison with the work waiting to be done? The Chairman aptly said:—"We want the patience, the sympathy, and the support of every shareholder in the vast labours which lie before us, and consideration and sympathy for our past work." This will unhesitatingly be accorded them, for we are convinced that the directors and managers have done their best and used their utmost exertions to bring success, and if it should happen to elude them they can console themselves that it will not be their fault. The shareholders have received a substantial bonus of 16s. per share as a result of the flotation of the first subsidiary company, the Buffelsdoorn A Company, which augurs well for similar profits in the future from this kind of business. During the year the property has been extended by the purchase of the mynpacht of Stilfontein, which the directors consider a very valuable property. The board decided some time ago to work the mine as a 170 stamp proposition. It has, therefore, been necessary to add in all departments to the equipment both on the surface and in the mine. These works are proceeding rapidly, and should be completed in July, and will enable them to crush about 1100 tons and cyanide about 1000 tons per day.

WE have on several occasions of late notified our readers of the activity displayed in California in the reclamation of the mining industry there, which has for too long a time lain in too lethargic a state. As a consequence of this awakened energy we shall not be surprised to hear of another boom, though it would not be likely to take place yet awhile, for public attention is directed too exclusively to more promising parts of the world. At any rate, it goes far to prove that the gold industry is far from dead, but is only sleeping, and that little impetus is needed to arouse it into full and successful activity. We now learn that one of the effects of the growing industry in gold mining in the State is the renewal of mining on a large scale in the beds and bars of the rivers in the mining counties. For over 25 years these deposits have been an insignificant source of gold yield. In the early days it was considered that they had been worked out, and they were consequently abandoned to the Chinese. The more thorough search now being made for gold is disproving this, and operations by white men are increasing in number and extent. These operations are particularly noticeable on the American and Bear Rivers. In the latter stream, says the *Mining and Scientific Press*, a very extensive deposit of rich channel gravel has been developed buried beneath the tailings deposits. It covers several acres, and is mined by drifting from shafts about 100 feet in depth. On the American River the new activity is even more marked.

THE shareholders in Mason and Barry (Limited), even if the result of last year's operations do not compare very favourably with those of previous years, cannot be otherwise than satisfied with the position of the company, as explained to them at the annual meeting on Monday by Mr. Francis Tress Barry. After several years of prosperity, the returns of copper have fallen off somewhat, and, in consequence, the directors, some two years ago, adopted what, under the circumstances, must be considered a very wise policy. At the meeting in 1894 the Chairman explained that policy in the following words:—"We shall continue," he said, "to make every effort to turn into cash our fixed assets, and shall be quite satisfied if in future we are able to declare the payment of a small dividend year by year, and at the same time gradually accumulate money so as to make further repayments on account of capital." In pursuance of that policy, at the instigation of the board, the shareholders have already been repaid £1 per share, and again this year, when the necessary authority of the Court is obtained, a further similar repayment will be made. By this means the original £5 shares will be reduced to a nominal value of £3, and although the dividend this year is only 2s. 6d. per share, this amount is not a very small one in face of the other proposal. Even if the reduction in the quantity of copper made still, as the directors anticipate, continues, the proprietors we think have no cause for apprehension as to the future prospects while the management of the company is in such able hands.

OUR readers will doubtless remember that in April of last year we quoted in these columns the opinion of the *South African Financial Record* upon the prospects of the Orion property, and that that opinion was of a most flattering kind. We are sorry to see, however, that the results of the past year's working has not supported that opinion. It has been a year of great trouble and anxiety, of accidents and difficulties, which, however, do not condemn the value of the property, but arise from circumstances which no directors or managers could foresee. First came the drought, succeeded by the scarcity of labour. Then in consequence of the water becoming impregnated with sulphuric acid, it was destroying the boilers and pipes. This resulted in the shutting down of the mill to effect the necessary repairs. Then they encountered poor rock, and in view of this the directors deemed it wise to husband the company's funds, and to suspend the payment of a dividend until the richer zone is struck. During the year 64,275 tons of ore were mined, of which 55,185 tons were milled, yielding 16,024 ounces of gold. This realised the sum of £54,547, an average of 5 dwts. 16 grains, or 19s. 10d. per ton. In the cyanide works 27,777 tons of tailings were treated, yielding 18,605 ounces of bullion, realising £46,088, an average of 13·4 dwts., or 33s. 2d. per ton. The total profit for the year amounted to £37,110, in addition to which a sum of £49,135 was gained by the sale of property and machinery to the Minerva Company, from the sale of reserve shares and smaller sums from various sources. Altogether the sum of £115,283 was earned, of which £50,000 has been carried to the reserve fund, and £39,500 distributed in dividends.

ALTHOUGH year by year the region of the world in which the highest yield of gold is recorded alters, yet the total production of the precious metals shows a steady tendency to increase in quantity. At the present moment California is taking the lead in the matter of gold output. The entire gold production of the United States for 1895 amounts to about £10,500,000, being an increase of more than 20 per cent. over the output for 1894, and representing, it is estimated, something like a quarter of the entire gold production of the world. Such, at least, are the figures put forward by Director Preston, of the United States Mint Bureau, who has the reputation of keeping his statements under rather than over the mark. The estimated production of gold in some of the States and Territories for 1893, 1894, and 1895 is as follows:—California, 1893, £2,416,000; 1894, £2,714,078; and 1895, £3,120,000. Colorado is a good second with £1,505,400 in 1893; 1894, £1,898,302; and 1895 rushes up to £3,000,000. South Dakato shows 1893, £801,280; 1894, £159,820; and 1895, £851,000. Montana is third with £715,200 in 1893; £730,282 in 1894; and £878,540 in 1895. Idaho had a production in 1895 of £558,140, and Arizona of £500,000. We can but appreciate the position of the United States as a gold-yielding nation by a brief reference to the gold production of the world. In 1849 the world's total production only amounted to £6,000,000. In 1853 it rose suddenly to £30,000,000, by reason of the great alluvial finds in California and Australia. From that date there was a gradual decline; the lowest point being reached in 1883, with £20,000,000. From 1883 to 1887 there was a slow increase, the production being greatly assisted by the output of the El Callao Mine in Venezuela, and the Mount Morgan Mine in Australia. Since then the immense development of gold fields in South Africa has caused the world's total yield to advance rapidly, the figures for the last six years being £23,700,000 for 1890, £26,130,000 for 1891, £29,260,000 for 1892, £31,110,000 for 1893, £36,000,000 for 1894, and £40,000,000 for 1895. Towards the great total South Africa and Australia contribute respectively about as much as the United States at the present time. The year of the largest gold output in the United States previous to 1895 was 1878, when the value was £10,220,000.

AN interesting economical experiment, which is one of the many tentative efforts which are being put forward to solve the labour difficulty, has been made by a colliery company in Yorkshire. In form it is a sort of modification of the co-partnership idea which obtained largely some few years ago, but in the working it would, no doubt, be found much more simple. Under the scheme, any miner who wishes to do so may, by agreement, have a shilling or two per week deducted from his wages and put into a deposit account, the company paying interest at the rate of 5 per cent. upon all balances up to £50 in amount. The money is withdrawable at two days' notice. The rate of interest will thus be seen to be sufficiently high to make the men virtually partners, though to a modest extent, in the concern. The main advantage accruing from the scheme is that the men are given some direct interest in the stability of the colliery company, while at the same time there is no danger of disagreement, such as perpetually troubles the application of the profit-sharing principle. The most dubious feature in the scheme is the short notice upon which the men will be able to withdraw their savings. The propensity of the average British workman to take a brief period of expensive holiday is well known, and the temptation of possessing a nice little sum withdrawable in the lump upon two days' notice might well prove irresistible. The extension of the time of notice would thus seem to be the first amendment which experience will suggest, so that the new departure in economical method may work as advantageously as possible to all concerned. It is impossible not to bestow some praise upon those who have carried through this spirited measure in their attempts to come into permanent agreement with their employés. The labour question is certainly the question of the future, and all attempts to solve it should be gratefully acknowledged by all who have the best interests of the community at heart. All will hope that the new experiment may end successfully, and that the combination of the ideas of a savings bank and an elementary partnership may work so as to justify its continuance.

THE Australian papers to hand by mail devote a conspicuous portion of their space to a description of the Northern Territory of South Australia, in which region Mr. Pritchard-Morgan has taken up a vast concession. It appears that this territory has long been an incubus upon the colony, and has been facetiously referred to as the "White Elephant," and only a few months ago the proposal was seriously made in Parliament that they should get rid of it at any price. Nevertheless, the place was known to be rich in minerals, and yet it seems strange that it should have been so neglected, and that no one seemed anxious to turn it to good account. In the report which the Government Geologist drew up, after spending some months in inspecting the country, it was made abundantly clear, as indeed it had been by the detailed accounts of other experts, that rich mineral deposits were only awaiting the enterprise of the prospector and the miner. The impression also exists in other quarters that the gold reefs in the northern portion of Western Australia run well into this territory. The *Adelaide Observer* pays a tribute to Mr. Pritchard-Morgan's enterprise in taking up this concession, of which it holds a high opinion. Our contemporary justly says:—"He is one of the last men to enter into a contract without counting the cost and seeing the prospect of a substantial or, at all events, a fair return for risk and outlay, and the inference obviously is that he has good grounds for believing that profitable mining operations can be carried on."

MR. MORGAN was, however, not the first to take up a concession in this part of the colony, his action having been anticipated by Mr. Moule and Mr. Lovely. Mr. Moule, with others, has taken up 65,000 acres of land, in 13 blocks of 5000 acres each, under special permits for coal mining at Fossil Head, Treachery Bay, which is about 150 miles away from Port Darwin. They were induced to take up this land after reading the report of the Government Geologist (Mr. H. Y. L. Brown) after his visit to the northern territory. In that report Mr. Brown said:—"The discovery of carboniferous and cretaceous rocks identified by their fossils adds two geological formations to the list of those mapped by geologists who have previously examined the country. The carboniferous rocks are on the coast, and may, when further traced and examined by boring or otherwise, be found to contain workable seams of coal, the discovery of which would have a very important influence on the future of the northern territory." In reply to an interviewer of the *Adelaide Observer*, Mr. Moule said:—"If we are successful in finding coal, about which I have not the slightest doubt, the position for a mine is one of the finest that could be obtained. The site is close to the coast, there is plenty of water for shipping, there are no special charges or difficulties to be contended against, and the place is most convenient for the British trade in the East. There is no doubt that if coal is found it will be carboniferous and not lignite. I believe if the Government Geologist's anticipations are realised, which I believe will be the case, the British naval authorities would be certain to form a station close by, because one of the things Britain really requires is a coaling station convenient to the East, and to have one upon the north coast of Australia would be an exceedingly good position."

THE MINING MARKET.

FRIDAY EVENING.

The long promised boom in West Australians come at last. Kaffirs quiet. Growing activity in Indians.

THE past week has witnessed a decided extension of interest in the Mining Market, more particularly in the West Australian section. There is no longer that know-nothing apathy on the part of brokers and dealers and even the public is awaking to the possibilities of the situation. Indians again have attracted a good deal of attention, and movements have taken place which remind one of old times. The Kaffir Circus has not up to the present shaken off the sluggishness engendered by the political complications in London and at the Cape, but even in this section there are indications that the early birds are on the feed, and it wants but little really good news to start the ball of speculation rolling afresh.

Saturday was an off day in every sense of the word. It was the last of the mid-May Account, and with the rival attraction of Kempton Park, the attendance in the House was very small and business insignificant. Bears however, took advantage of the dulness to buy back, with the result that quotations were inclined to harden. On Monday the carry over began, and rates as a rule were rather stiffer. In the case of West Australians this indicated an increase in the bull account, whilst in Kaffirs it was due to the fact that lenders are less anxious than formerly to tie up their money owing to the restricted nature of the dealings. Whilst there is a free and wide market there is no risk of getting mulcted in stamps and fees as the sole result of a single transaction. In the restricted dealings, however, capitalists have not infrequently had this experience. The making up lists in the African section showed a fair distribution of profits between bulls and bears, movements having been irregular during the preceding fortnight. In West Australians, on the other hand, the bulls had the best of the argument, and there were a good many small gains to their credit in the Miscellaneous section. When dealings commenced for new time Kaffirs remained dull, but West Australians forged ahead, and some substantial gains were scored. Indians were strong, and there was a rush of buyers for Broken Hills. On Tuesday Kaffirs were again depressed under the lead of Chartered and Gold Fields, but West Australians were buoyant and business was on a larger scale than for some time past. Mysores gave a lead to Indians and New Zealand shares were firm. On Wednesday things were quiet in the South African Market until the last hour, when rumours of lenient treatment for the Pretoria prisoners supported by open buying on the part of well-informed persons, imparted a strong tone to the leading shares, so that several small gains were established before the House closed. Renewed activity was manifested in Westralians, the Exploring group leading the way. A big jump in Mysores was the prominent feature in the Miscellaneous section, whilst Broken Hills were harder. Thursday witnessed the maintenance of the better tone in Africans despite the fact that no official confirmation respecting the commutation of the sentences upon the Reform Committee had come to hand. Lake Views led the way in the Westralian section, where business generally was on an increasing scale. Indians were active, but Mysores were passed in popular favour by Champion Reefs. This morning an enormous business was done in West Australians, the market having widened to an almost miraculous extent, owing to the migration of jobbers from all other parts of the House, including a large proportion from the Kaffir Circus. Some sensational rises were marked during the first hour's dealings, but realisations brought about a reaction, and it was only in one or two specialities that the upward movement continued. West Australian Goldfields were singled out for special attention, and achieved a remarkable advance. Kaffirs were quiet, and Indians were inclined to ease off.

South Africans.

On Monday the Chamber of Mines made its customary announcement of the monthly output at the Rand for April. The figures were given at 143,195 ounces, exclusive of the

crushings of the Langlaagte Estate, Block B, George Goch, Lancaster, Randfontein, Meyer and Charlton, Van Ryn, and one or two others. Later on in the day an amended total was issued from another source, which fixed the figures at 174,418 ounces, which shows a decline of some 12,000 ounces, as compared with April, 1895. Some doubts exist as to whether even the larger figures are complete, but however that may be, it would not appear that the industry is suffering to the extent that has been suggested by the political deadlock. The carry-over on Monday was not accomplished without slight difficulties in several cases, but rates were moderate enough. On Chartered the contango was about a penny. East Rands and the general run of gold shares were done at about 5 per cent., and on Goldfields the charge was about half that percentage. De Beers were carried over at $\frac{1}{16}$ and Jagers at 6d. The fluctuations in Chartered have been within a small compass, and at $3\frac{7}{16}$ the price shows a gain of only $\frac{1}{16}$ on the week. Goldfields have moved in sympathy with Chartered, owing to the large interest held in both companies by Mr. Rhodes. The 10s. dividend is deducted, so that at $11\frac{5}{8}$, the price is practically $\frac{1}{8}$ better than last week. Gold Trusts and Goldfields Deep are unchanged at $7\frac{7}{8}$, and $9\frac{5}{8}$ respectively. It is felt that this little group is under such distinct influences that it no longer acts as the barometer to the whole market. Land shares show but the most trifling changes; indeed, there is hardly an alteration throughout the list calling for comment. The Barnato group is slightly easier where changes are shown at all, the sole exception being in Barnato Banks which have been supported in the idea that a favourable move will be more quickly reflected in them than in the heavier varieties. The last price is $1\frac{13}{16}$, with the Consols at $2\frac{3}{8}$, Buffels at $2\frac{11}{16}$, Glencairn at $3\frac{5}{8}$, Langlaagte Royal at $2\frac{15}{16}$, New Primrose at $5\frac{3}{4}$, and Rietfontein at 4. In the Robinson Group Randfonteins at $3\frac{7}{16}$, North's at $1\frac{3}{8}$, and Langlaagte Estate at $5\frac{1}{4}$, are all the turn easier. East Rands have commanded a fair amount of attention, but close the turn lower at $7\frac{1}{4}$. St. Angelo have lost $\frac{1}{4}$ at $4\frac{1}{2}$, but Anglo-French Exploration are maintained at $5\frac{3}{8}$. Rand Mines have declined $\frac{1}{4}$ to $28\frac{1}{4}$, Consolidated Deep Levels $\frac{1}{8}$ to $5\frac{1}{2}$, Geldenhuis Deep $\frac{1}{4}$ to 6, Roodepoort Deep $\frac{1}{8}$ to $2\frac{11}{16}$, and Nourse Deep $\frac{1}{4}$ to 4. In the Eckstein group changes are insignificant. Most of the mines show some good crushing results for April. Cities close at $4\frac{1}{2}$, Ferreira at 20, Henry Nourse at 7, Heriot at 9, Modders at $7\frac{1}{8}$, Salisbury at $4\frac{3}{8}$, and Wemmer at $9\frac{3}{8}$. Geldenhuis Main Reef have lost $\frac{1}{8}$ at $\frac{15}{16}$, last month's crushing giving a yield of 1655 ounces. Shebas are rather better at 2, at which figure Orions are flat. Bantjes have fallen $\frac{1}{4}$ to $3\frac{3}{4}$, Chimes $\frac{1}{16}$ to $1\frac{3}{8}$, Kleinfontein $\frac{1}{4}$ to $3\frac{3}{4}$, and Van Ryn $\frac{1}{4}$ to $5\frac{1}{4}$. In the small Lydenburg group Barretts are exceptionally better at 11s. 6d. Diamond shares are slightly weaker, De Beers showing a loss of $\frac{1}{4}$ at $29\frac{1}{4}$, and Jagers one of $\frac{3}{16}$ at $10\frac{1}{2}$.

West Australians.

The most sensational movement of the week has been in Lake Views, which opened at $4\frac{5}{8}$ on Saturday, and after scoring nearly £1 on two successive days, they changed hands this morning at 7. The last price — $6\frac{3}{4}$ — shows a net gain of $2\frac{1}{4}$. It must be remembered that these shares are only 7s. 6d. paid, so that they are now proportionately the highest priced in the market. The Great Boulder crushing of 2962 ounces from 890 tons was voted disappointing, with the result that the shares are slightly easier at $9\frac{1}{8}$ ex 2s. dividend. The Brownhill crushing, said to be at the rate of 3 ounces to the ton, was also treated as a disappointment, and the shares close below the best at $7\frac{1}{8}$. Other Hannan's properties, however, have gone ahead. Gains of $\frac{3}{8}$ are shown in Associated at $2\frac{3}{8}$ and Hannan's Proprietory at $2\frac{1}{16}$. Iron King have risen $\frac{3}{8}$ to $1\frac{11}{16}$, Cassidy Hill $\frac{1}{8}$ to $1\frac{7}{16}$, Golden Horseshoe $\frac{1}{16}$ to $1\frac{3}{8}$, Oroya $\frac{1}{16}$ to $1\frac{1}{8}$, Hannan's Reward $\frac{3}{8}$ to $4\frac{3}{8}$, and Lake View South $\frac{1}{8}$ to $1\frac{7}{8}$. The Menzies Group shows a general small improvement, Reefs at 2, Crusoe at $1\frac{7}{16}$, Gold Estate at $1\frac{1}{8}$, O'Driscoll's at $1\frac{1}{16}$, Lady Shenton at $2\frac{11}{16}$, and Florence at $2\frac{1}{8}$. In the White Feather Group the premier stock is rather easier at $2\frac{7}{16}$, but Wealth of Nations has put on $\frac{1}{8}$ at $1\frac{7}{16}$, and Hit or Miss $\frac{1}{8}$ at $1\frac{13}{16}$. To day's sensation has been in West Australian Goldfields, which advanced from $8\frac{1}{4}$ to $9\frac{3}{8}$, thus making a gain of $1\frac{1}{8}$ on the week. Hampton Plains have scored the odd fraction at $5\frac{3}{8}$, importance being attached to the cabled news of a good discovery of water. Mainland Consols have been bought on the strength of a statement that crushing will commence before the end of the month. The shares close below the best $\frac{3}{4}$ up at $3\frac{11}{16}$. The Exploring and Finance Group has been strong, these shares and London and Globe closing $\frac{7}{8}$ higher at $3\frac{3}{4}$ on the prospect of amalgamation. Colonial Finance has put on $\frac{1}{4}$ at $\frac{9}{16}$, and the Founders' shares are 10 points up at 70. Share Corporation are $\frac{1}{4}$ higher at $1\frac{1}{16}$, and Paddington Consols have risen $\frac{3}{8}$ to $1\frac{1}{16}$. The whole market displays a better tone than for many weeks past, and at the time of writing it looks safe enough to predict further improvement at an early date, more especially as the influx of fresh dealers secures increased capital for financing the market.

Miscellaneous.

The Indian Group has claimed pre-eminence this week, and a hard struggle for supremacy has been in progress between the supporters of Mysores and Champion Reefs. On Wednesday Mysores took the lead, going over £7, the news of the striking of a new lode showing 1 ounce 6 dwts. to the ton, served as the pretext for the enthusiasm. On the following day, however, Champion Reefs regained their position, and close $\frac{1}{2}$ up at $7\frac{1}{16}$ with Mysores finally only $\frac{1}{16}$ to the good at $6\frac{11}{16}$. Nundydroogs and Ooregums have scored $\frac{3}{16}$ at $3\frac{1}{16}$ and $3\frac{5}{16}$ respectively. The New Zealand Group has attracted less attention. Haurakis at 14s. 3d., Kapangas at 14s. 9d., Waihi at $6\frac{5}{8}$, Silverton at $3\frac{11}{16}$, and Waitekauri at $4\frac{1}{16}$ are within the market turn of last week's prices. Copper shares have again been active, and Tintos close $\frac{1}{2}$ better at $21\frac{3}{8}$. Broken Hills were enquired for early in the week, but have eased off again, closing only $\frac{1}{16}$ up at $2\frac{7}{8}$, with British a few pence better at $1\frac{3}{16}$. Alaska Mexican have advanced $\frac{1}{4}$ to $1\frac{3}{8}$. St. John del Reys are $\frac{1}{2}$ up at $1\frac{1}{4}$. The return of 780 ounces from 620 tons has not prevented a set back in Wentworths to $\frac{11}{16}$, with Aladdins sympathetically easier at $1\frac{1}{16}$.

STOCK EXCHANGE SETTLING DAYS.

CONSOLS.

Monday, June 1.

MINING MAKING-UP DAYS:

Tuesday, May 26 | Tuesday, June 9

MINING NAME DAYS:

Wednesday, May 27 | Wednesday, June 10

ACCOUNT DAYS:

Friday, May 29 | Friday, June 12

HOLIDAY: Monday, May 25

The first batch of letters of allotment and regret in the Cyrene MANUFACTURERS' COMPANY (LIMITED) has been posted.

AFRICAN MINES' APRIL OUTPUT.

GOLD.

	Nov. Ozs.	Dec. Ozs.	Jan. Ozs.	Feb. Ozs.	Mar. Ozs.	Apr. Ozs.
Appantoo	—	—	348	—	—	—
Barrett	805	546	550	571	533	400
Block B	3,418	2,690	2,548	2,621	2,870	3,153
Buffelsdoorn	3,716	4,011	3,625	2,539	2,202	—
Champ d'Or	3,823	5,433	870	2,377	2,920	3,360
City and Suburban	8,226	8,036	6,308	8,037	8,203	7,835
Crown Reef	11,448	10,729	8,890	10,845	11,303	11,498
Durban-Roodepoort	6,222	4,710	3,813	5,283	5,558	5,590
Eastleigh	2,150	1,413	1,950	1,844	2,100	2,200
Ferreira	8,116	11,050	9,879	11,770	12,770	12,219
Forbes Reef	68	109	118	144	150	102
Graskop	—	144	129	201	310	—
Geldenhuis Deep	3,698	3,190	3,382	2,793	3,684	4,046
Geldenhuis Estate	6,532	5,099	2,430‡	5,815	6,204	6,139
Geldenhuis Main Reef	1,924	2,052	1,747	1,876	1,881	1,655
George Goch	3,190	3,355	2,278	3,082	3,383	4,362
Ginsberg	768	679e	813r	910	938	1,175
Glencairn Main Reef	6,159	5,364	3,163	4,401	4,246	4,527
Henry Nourse	4,847	5,021	3,616p	5,288	6,166	6,223
Joe's Reef United	258	205	199	155	175	227
Johannesburg Pioneer	2,763	2,710	2,611	2,698	—	—
Jubilee	2,334	2,689	2,238	2,472	2,328	2,485
Jumpers	5,957	4,960	3,104m	3,317	3,704	4,202
Lancaster	314	234	265	253	—	—
Langlaagte Estate	10,740	9,679	9,058	9,165	9,568	9,002
Lisbon-Berlyn	692	653	808	821	842	763
Lydenburg	—	—	—	—	4,945	5,404
May Consolidated	5,738	5,299	5,048	3,237	3,871	4,323
Metropolitan	1,621	—	—	—	—	—
Meyer and Charlton	2,885	3,264	2,437	3,008	3,457	4,006
Minerva	1,095	1,139	1,311	276	—	—
Moodies	300	309	490	1,000	1,150	—
New Chimes	2,363	1,886	807	806	1,692	—
New Clewer Estate	2,223	1,381	1,573	1,683	—	—
New Comet	2,327	2,430	1,349	1,985	233†	—
New Ormeau	2,734	2,175b	2,020	3,058	2,724	2,441
New Heriot	5,735	5,326	3,825	5,716	6,045	6,011
New Kleinfontein	2,519	2,582	1,326	2,308	—	—
New Primrose	12,023	9,553	9,026f	9,101	9,105	9,547
New Rietfontein	2,289	1,901d	2,076	2,297	2,349	2,327
Nigel	2,613	2,844	2,074	2,079	1,798	2,001
Orion	2,500	2,900	2,111	2,867	—	—
Paarl Central	1,932	404	287	230	—	—
Pigg's Peak	—	—	88	66	—	—
Porges-Randfontein	2,515	2,517	1,792	1,129	—	—
Princess Estate	2,024	1,334	1,524	1,874	1,537	1,671
Robinson	16,367	16,024	12,281	14,828	16,267	15,927
Roodepoort United M.R.	4,719	3,635	3,337	3,820	4,001	3,961
Salisbury	2,550	2,450	2,100	1,950	2,450	2,850
Sheba	6,563	6,602	10,010	10,028	12,500	10,340
Simmer and Jack	7,786	8,302	6,319	7,753	8,636	8,640
Spitskop	243	199	211	384	286	—
Stanhope	1,000	730	804	810	870	960
Sutherland Reef	594	229	239	430	378	134
Transvaal Gold	2,550	2,625	2,475	2,330	4,945	—
United Ivy Reef	—	—	365	624	590	649
United Langlaagte	1,845	1,143	577	578	567	—
Van Ryn	2,624	2,406	2,334	2,081	2,088	—
Violet Consolidated	304	—	—	—	—	—
Wemmer	6,457	6,075	5,361	4,967	5,202	5,597
Wolhuter	5,485	5,527	3,216	4,906	5,524	4,778
Worcester Exploration	2,031	1,971	2,050	1,850	2,453	2,444

DIAMONDS.

	Carats.	Carats.	Carats.	Carats.	Carats.	Carats.
Koffyfontein	3,750	3,800	3,800	4,250	4,500	4,750
New Gordon	—	—	—	2,118	—	—
Un. Mines, Bultfontein	—	—	6,000	—	—	—

COAL.

	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Camel Coal	24,105	24,160	15,880a	22,435	25,017	26,500
Great Eastern	—	—	11,400	15,400	16,100	16,500
Transvaal Coal Trust	31,000	32,100	29,400	24,500	29,400	32,200

b 60 stamps, 24 days. c 10 stamps, 26 days. d 30 stamps, 24 days, f 22 days. h 13 days. m 15 days. p 17 days. r 25 days. s mine closed 14 days. † Tailings only.

The following are the profits or losses (the latter being indicated by a *) made by South African mining companies:—

	Nov. £	Dec. £	Jan. £	Feb. £	Mar. £	Apr. £
City and Suburban	7,475	4,550	4,225	10,011	—	—
Crown Reef	15,213	12,192	10,510	14,707	18,050	—
Geldenhuis Deep	—	—	—	—	—	3,400
Geldenhuis Estate	4,500	1,996	3,700*	4,400	7,477	4,600
Geldenhuis Main Reef	2,161	2,847	2,050	2,662	2,597	1,402
George Goch	3,247	2,368	435	1,703	—	—
Glencairn	10,835	7,682	2,167	5,769	—	—
Jumpers	7,500	4,337	2,000	2,000	2,350	3,000
May Consolidated	6,606	6,000	4,784	—	1,600	—
Meyer and Charlton	2,138	3,708	646	2,430	3,660	4,010
New Chimes	2,152	1,177	—	—	—	—
New Heriot	10,031	—	6,059	10,289	—	—
New Primrose	16,047	6,675	5,730	6,552	—	—
New Rietfontein	1,832	1,202	—	—	—	—
Princess Estate	1,675	284	387	1,247	—	—
Robinson	31,000	35,000	19,000	25,000	26,000	27,500
Roedepoort United	7,850	4,100	4,000	6,000	6,457	5,500
Simmer and Jack	11,044	11,022	5,347	7,653	11,466	—
Transvaal Gold	3,045	2,915	2,910	—	—	—
Van Ryn	2,396	1,482	—	1,505	1,246	—
Wemmer	11,380	10,698	7,938	6,559	6,680	—

DIAMONDS.

Un. Mines, Bultfontein	—	—	2,000	—	—	—

COAL

Camel Coal	4,750	4,550	1,080	—	4,900	5,500
Great Eastern	—	—	1,300	—	2,300	—
Transvaal Coal Trust	4,600	4,500	2,000	3,000	3,000	—

DIARY.

Monday, May 18.

San Jorge Nitrate, Winchester House, 1.
Metropolitan Coal Co. of Sydney, Cannon-street Hotel, 2.
Transvaal Consolidated Land and Exploration, Pretoria.

Tuesday, May 19.

Devon Great Consols, 8, Finsbury Circus, 12.
Tin Ticketing, Tabb's Hotel, Redruth, 1.
Anglo-French Exploration, Winchester House, 2.

Wednesday, May 20.

Lomagunda Exploration Company, Winchester House, 12.
Investment Trust Corporation, Cannon-street Hotel, 2.
Golden Gate of California, Winchester House, 2.30.

Thursday, May 21.

London and South African Exploration, Winchester Ho., 12.
All Nations Gold Mines, Winchester House, 12.
Barrett Gold Mining Company, Winchester House, 12.30.
Golconda Gold Mines, Winchester House, 12.30.
Kimberley Diamond, Winchester House, 1.
Julia Taltal Nitrate Company, Cannon-street Hotel, 2.
Santa Rita Nitrate Company, Winchester House, 2.30.

THE METAL MARKETS.

LONDON METAL MARKET.

THE METAL MARKET, LONDON, MAY 15.

Copper

OPENED firm at £45 8s. 9d. cash G.M.B.'s, £45 10s. being paid subsequently, and for three months £45 12s. 6d. up to £45 16s. 3d., there being more demand both speculative and for consumption. The brighter news from America respecting the position of copper there strengthened the tone of our market still further on Tuesday and Wednesday, business taking place in cash G.M.B.'s at up to £46 1s. 3d., and three months at up to £46 10s. The transactions for the three days amounted to nearly 4000 tons. On Thursday the market made a strong start, £46 5s. s.o. and £46 15s. three months being done, but rather more inclination to sell was manifested at this level, and values consequently eased off to £46 3s. 9d. and £46 3s. 9d. respectively. The turn over for the day was about 1900 tons, the heaviest of the week. To-day was again firm, especially towards the end, when £46 2s. 6d. was paid for cash, and we closed firm at £46 2s. 6d. to £46 3s. 9d. s.o., and £46 7s. 6d. to £46 10s. three months. Like in America has been done at 11 cents, and is not now obtainable at less, whilst the copper trade over there wears a brighter aspect than for some time past. All sorts of consumers' copper are growing dearer.

Tin.

There has been no feature of interest this week. Speculative demand has been only moderate; but, on the other hand, there has not been any pressure to sell. Spot Straits opened at £59 10s., and after touching £59 11s. 3d., decline on Tuesday to £59 7s. 6d., recovering then to £59 11s. 3d., only to fall back again on Wednesday to £59 8s. 9d. Later, on Wednesday, the value improved to £59 13s. 9d. three months, rising to £60 6s. 3d., whilst Thursday brought a further advance—viz., to £59 15s. spot, and £60 10s. forward, there being a rather better speculative demand. To-day, after a firm market with transactions up to £60 s.c., the market closed steady at £60 to £60 2s. 6d., cash Straits, and £60 11s. 3d. to £60 12s. 6d. three months. Named brands of Australian are still held for high premiums, say about £1 7s. 6d. per ton over Straits. Billiton tin, in Holland, opened with spot at fl 36¾, and improved fl ½, closing firm at fl 38 s.c. and fl 36⅝ three months Billiton, with Banca at fl 36¾.

Pig Iron.

Scotland shipped last week about 8000 tons, or (say) 700 tons more than in same period of last year. In Glasgow Scotch warrants were dealt in at 45s. 7½d. to 45s. 11d. s.c. on Monday, 46s. 11½d. being paid on Tuesday, but a relapse to 46s. taking place on Wednesday. Thursday was steady at 46s. 2d. to 46s. 0½d. and to-day 46s. and 46s. 0½d. was done, the market closing steady at 46s. 0½d. sellers of s.o., and 46s. 2½d. a month, with hematite and Middles brough respectively at 47s. 1d. and 37s. 2d.

Lead

is dull, though steady as to price, and there is very little inclination to purchase evinced. The close is at £11 to £11 1s. 3d. for soft foreign, and £11 5s. to £11 6s. 3d. for English.

Spelter

continues to advance, and consumers are showing more inclination to cover their requirements at the higher values. We close firm at £17 to £17 5s, specials.

Antimony

is steady at £30 to £30 10s.

Quicksilver

remains quiet. Firsts are quoted at £7 15s., and seconds at £6 13s. 6d. to £6 14s.

The following are to-night's (May 15) prices of metals:—

	£ s. d.	£ s. d.
Copper.		
Tough cake and ingot	12 15 0	51 0 0
Best selected	50 5 0	50 10 0
Electrolytic Copper	51 0 0	51 10 0
Sheets and sheathing	—	56 0 0
Flat bottoms	—	59 0 0
Chili bars, spot, & 3 months respectively	46 3 9	46 10 0
Good merchantable,		
Copper tubes, seamless	—	0 0 7½
Alloys.		
BRASS: Wire	—	0 0 5¾
,, Tubes (solid drawn)	—	0 0 6½
,, Sheets	—	0 0 6
PHOSPHOR BRONZE: Alloys II.	—	78 0 0
,, ,, III. or Cog Wheel Brand	—	81 0 0
,, ,, VII.	—	83 0 0
,, ,, XI.	—	78 0 0
,, ,, Vulcan brand A1	—	72 0 0
DURO METAL	—	72 0 0
BULL'S METAL	—	65 0 0
Ferrobronze (Vivian's).		
Ingots ...per lb.	0 0 5¾	—
Ordinary sheets, plates, bolts and bars	0 0 6¾	—
Screw bolts and nuts	0 0 8¾	—
Pump rods, plain	0 0 7¾	—
,, finished	0 0 10¾	—
DELTA METAL: No. 4 (per ton)	—	—
,, Sheets and plates (per lb.)	—	—
,, Bars, round, square, flat (per lb.)	—	—
,, ,, hexagon (per lb.)	—	—
Tin.		
English, ingots, f.o.b.	—	63 15 0
,, bars	—	64 15 0
,, refined	—	65 15 0
Straits, spot and 3 months respectively	60 2 6	60 12 6
Australian spot, and three months respectively	61 10 0	62 0 0
Banca ,, (in Holland)	61 10 0	61 12 6
TIN PLATES: Charcoal, best quality per box	0 14 3	0 17 0
,, ,, ordinary	0 10 6	0 13 6
,, Coke, best quality	0 9 6	0 9 9
,, ,, ordinary	0 9 0	0 9 3

These price of tinplates are f.o.b. at Swansea: at Liverpool 6d. per box more.

Iron.		
Pig, G.M.B., f.o.b., Clyde, spot	—	2 6 0½
,, Scotch pig, No. 1 Gartsherrie	—	2 10 6
,, ,, Coltness	—	2 13 6
,, ,, Clyde	—	2 10 0
,, ,, Govan	—	2 7 3
Bars, Welsh, f.o.b. Wales	—	5 5 0
Plates ,, ,,	—	5 5 0
Bars, Staffordshire, at works	—	5 5 0
Sheets ,, ,,	—	6 10 0
Plates ,, ,,	—	5 7 6
Hoops ,, ,,	—	5 15 0
Ship plates, Middlesborough	—	5 1 3
STEEL: English spring	—	10 0 0
,, ,, cast	—	42 0 0
,, Rails at works, according to section	—	5 0 0
Lead.		
Spanish or soft foreign	11 0 0	11 1 3
English pig, common	11 5 0	11 6 3
,, L.B.	—	11 12 6
,, sheet and bar lead	—	12 5 0
,, pipe	—	12 15 —
,, red	—	14 10 0
,, white	—	17 10 0
,, patent shot	—	14 15 0
Spelter.		
Silesian ordinary brands	—	17 0 0
,, special brands	—	17 5 0
English Swansea	—	17 15 0
Sheet Zinc	18 15 0	20 0 0
Antimony.		
Antimony	30 0 0	30 10 0
Quicksilver.		
Flasks, 75 lbs. warrants	6 13 6	6 14 0
Ore, c.i.f., U.K. ports	per unit.	
1st quality, 50 per cent. and upwards	0 0 11	0 1 1
2nd ,, 47 per cent. to 50 per cent.	0 0 10	0 1 0
3rd ,, 40 ,, 47 per cent.	0 0 9	0 0 11
Aluminium.		
98–99½ per cent. (guaranteed 98 per cent. min.) in ingots (1 cwt. lots)	Per lb. —	Per lb. 0 1 6
do (1 ton lots)	—	0 1 4½
Nickel.		
98–99 per cent. guarantee	0 1 2	0 1 0

THE WESTERN EXPLORERS (LIMITED).

The first ordinary general (or statutory) meeting of shareholders in the Western Explorers (Limited) was held yesterday, at Winchester House, E.C.—Mr. G. Hardie, who presided, said the shareholders would be aware that at the end of last year they decided to reconstruct the company with the object of increasing the capital, and also giving to the ordinary shareholders certain rights which were provided for by the deferred shares which were then issued. The transfer of the business of the old company to the new one had taken longer than the directors had anticipated, which accounted for any delay that might have arisen. It was satisfactory to know that all the shareholders in the old company had come into the reconstruction—there had not been a single dissentient—so that they now stood in a very much stronger financial position than at the end of last year. They had also acquired an additional property, which he hoped would result in a very substantial profit to the company.—A vote of thanks to the Chairman terminated the proceedings.

"THE MINING JOURNAL" SHARE LIST.

ABBREVIATIONS AND REFERENCES.—The following are the significations of the abbreviations and references which occur in the Share List:—*Ay*, Antimony; *A*, Arsenic; *Bl*, Blende; *Bx*, Borax; *C*, Copper; *D* Diamond; *G*, Gold; *I*, Iron; *L*, Lead; *M*, Mundic; *N*, Nitrates; *P*, Phosphates; *Q*, Quicksilver; *R*, Ruby; *S*, Silver; *S-l*, Silver-lead; *Sul*, Sulphur; *T*, Tin; and *Z*, Zinc. * in the "Amount of Share" column of British Mines signifies that the mine is conducted on "Cost Book" principles; ‡ in the "Head Office" column of African Mines signifies that the address given is not that of the head office but of a sub, or transfer office; and †, following the names of African Mines, signifies that they are subject to the Limited Liability Law of the South African Republic.

*** The following is by far the most complete and comprehensive list of mines, in whose shares business is being currently transacted, published. Additions will be made from time to time as occasion requires. Every effort is made to ensure accuracy, and Secretaries of Companies, Share Dealers, and our readers generally, are cordially invited to co-operate with us to this end, by notifying us of any errors that may at any time occur. We desire it to be understood that, while our Share List will almost invariably be found correct, we do not hold ourselves responsible for any loss or inconvenience that may arise from possible inaccuracies.

AFRICAN MINES.

Name.	Closing Price, May 15, 1896.	Closing Price May 8, 1896.	Am't. of Share	When last XD and Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
			£		£ s. d.			
Abbott's Con. Reefs	6/ 7/	6/ 7/	1 0	—	1 0 0	—	De Kaap	Broad Street Avenue
Aldler Consolidatd	1⅝ 1¾	1 11/16 1 13/16	1 0	—	1 0 0	250,000	—	1, Moorgate place.
African Estates	2 1/16 2 3/16	2⅛ 2¼	1 0	2/& rts Oc.16 95	1 0 0	438,000	"	3, Copthall-buildings
" Gold Recvry	1⅝ 1¾	1⅝ 1¾	1 0	rts Oct 30 '95	1 0 0	175,000	—	23, College Hill.
Africana	9/16 11/16	⅝ ¾	1 0	—	1 0 0	1,075,000	—	34, Clement's lane
Afrikander	1 5/16 1 7/16	1⅜ 1½	1 0	rts May 24 '95	1 0 0	40,000	Transvaal.	23, College Hill
Alexandra Estate G	9/16 11/16	⅝ ¾	1 0	—	1 0 0	225,000	Rand	16, George street
Anglo-French Exp.	5 1/16 5 3/16	5 1/16 5 3/16	5 0	15% Aug 29 '95	5 0 0	30,000	S. Africa	3, Princes street
" Matabeleland	2 2⅛	2 2⅛	1 0	—	1 0 0	39,750	Matabld.	Winchester House.
Appantoo ...... G	—	—	1 0	—	1 0 0	77,885	West Cost	Dashwood House.
Aurora ...... G	1 5/16 1 7/16	1⅜ 1½	1 0	5% Mar. '93	1 0 0	65,000	Rand	8, Old Jewry.‡
" West United	1 5/16 1 7/16	1⅜ 1½	1 0	—	1 0 0	100,000	"	7, Lothbury
Austral African	15/16 1 1/16	15/16 1 1/16	1 0	3/-Dec. 16 '95	1 0 0	250,000	—	Token.Ho., Opthll Av
Balkis Eersteling G	2/3 3/	2/6 3/	10/	—	0 10 0	520,000	Transvaal	85, Gracechurch-st.
" Land	4/9 5/3	4/9 5/3	10/	1/ Feb. 13, '96	0 0 0	520,000	"	"
Bantjes Consol ... G	3⅞ 4	4 1/16 4 3/16	1 0	rts Sep 24 '95	1 0 0	83,000	—	15, Geo. st., Mn Ho.
Barnato Bank	1 13/16 1⅞	1 11/16 1 13/16	1 0	—	1 0 0	2,625,000	—	7, Lothbury
" Consol	2 11/16 2 13/16	2 11/16 2 13/16	1 0	—	1 0 0	1,000,000	—	"
Barrett ... G	11/6 12/6	10/6 11/	10/	—	0 9 0	407,496	De Kaap	17, Basinghall-street
Bechuanaland Exp	1⅛ 1⅜	1⅛ 1⅜	1 0	rts Jy 24 '95	1 0 0	400,000	Bechuana.	19, St.Swithin's-lane
" Trad g Assoc.	1¼ 1⅜	1¼ 1⅜	1 0	5 pc Jan 16, 96	1 0 0	100,000	"	72, Basinghall street
Ben Trovato	⅛ ⅜	⅛ ⅜	—	—	—	—	—	2, Austin Friars.
Big Golden Quarry	/6 1/	/6 1/	5/-	—	0 5 0	483,226	Kaap River	Warnford Court,
Block "B" Lang.	1 13/16 1 15/16	1 13/16 1 15/16	1 0	—	1 0 0	535,000	Rand	8, Princes-st, E.C.
Bonanza	2½ 2⅝	2⅜ 2⅝	1 0	—	1 0 0	200,000	Turffont'n	120, Bishopsgate-st.
Brit. S. A. Char.	3⅛ 3¼	3 5/16 3 7/16	1 0	rts Jy 26 '95	1 0 0	1,999,750	S. Africa	15, St. Swithin's-lane
Buffelsdoorn ... G	2⅝ 2¾	2 11/16 2 13/16	1	16/- Nv. 28 '95	1 0 0	250,000	Potchefstr	7, Lothbury.
" Central	⅛ ⅜	⅛ ⅜	1 0	—	1 0 0	—	—	8, Old Jewry
" Consolidated	⅝ ¾	11/16 13/16	1 0	—	1 0 0	225,000	—	Warnford Court
Cape Asbestos	¾ 1	¾ 1	1 0	—	1 0 0	50,311	Orange Rv	19, St. Swithin's-lane
" Copper ... C	2 7/16 2 9/16	2 7/16 2 9/16	2 0	2/6 Dec.16, '95	2 0 0	300,000	Cape Col.	9, Queen-street-place,
" 6% Pref.	2⅜ 2⅝	2⅜ 2⅝	2 0	2/6 Dec.16, '95	2 0 0	45,000	"	" "
Cassel Coal	1⅝ 1¾	1⅝ 1¾xd	1 0	1/5 Apr, 29 '96	1 0 0	75,000	Johanbrg.	99, Cannon-street.
Cer. de Kaap	1/ 1/6	1/ 1/6	5/-	—	0 2 6	—	De Kaap	Palmerston Bldgs
" Roodp't Deep	1⅞ 2⅛	2 2¼	1 0	—	1 0 0	220,000	—	120, Bishopsgate st.
Champ d'Or ... G	2 2¼	2 2¼	1 0	3/2 Feb. 27 '96	1 0 0	116,016	Rand	8, Old Jewry, E.C.
Charterland G.F.	9/16 11/16	9/16 11/16	1 0	—	1 0 0	150,000	—	19, S. Swithin's lane
Chimes West	1⅜ 1½	1⅜ 1½	1 0	—	1 0 0	150,000	—	Winchester Ho.
City and Sub.Nw G	4⅜ 4⅝	4⅜ 4⅝	4 0	10/- June'95	4 0 0	340,000	Rand	Gresham Ho.
Con. Bultfontein D	33/ 34/	33/ 34/	1 0	9d, Jan. 16 '96	1 0 0	721,500	Griqualnd	62, Lombard-st
Con. Deep Levels G	5⅛ 5⅜	5⅛ 5⅜	1 0	4/- Jy 11 '95	1 0 0	187,250	Transvaal	30, St. Swithin's-lane
Con. G. Fields S A	11⅝ 11¾xd	11⅞ 12⅛	1 0	10/(May 14 '96	1 0 0	1,250,000	S. Africa	8, Old Jewry,
Do. 6% Pref.	24/9 25/3	25/3 25/9	1 0	7 1-5d Dc30'95	1 0 0	1,242,959	"	"
Do. 5½% Deben.	108 109	108 109	5 0	5½ Jan. 2 '96	5 0 0	600,000	"	"
Crown Deep ... G	11 12	11 12	1 0	—	1 0 0	250,000	Rand	120, Bishopsgate-st.
" Reef ... G	11⅝ 11⅞	11⅝ 11¾ xd	1 0	10/-Apr. 29 '96	1 0 0	120,000	"	"
De Beers Consol. D	29⅝ 29⅞	29 9/16 29 11/16	5 0	15/- Jan. 16 '96	5 0 0	789,791	Kimberl'y	62, Lombard-street.
Do. 5% 1st Deb.	108⅛ 109½	108½ 109½	—	5% Jan. 2 '96	—	£3,500000	"	"
Do. 5½% Bal. Ob	103⅜ 104½	103⅜ 104⅝	—	5½% Oct. '95	—	720,000	"	"
Doornkop	4/ 5/	4/ 5/	1 0	—	1 0 0	150,000	Doornkop	Warnford Court
Driefontein	2⅛ 2⅜	2⅛ 2⅜	1 0	—	1 0 0	175,000	—	Winchester Ho.
Durban Roodept. G	6¼ 6½	6⅛ 6⅜	1 0	3/- Dec. 16 '95	1 0 0	£125,000	Rand ...	28, Leadenhall-bldgs.
" Deep	3⅛ 3⅜	3⅛ 3⅜	—	—	—	—	—	
Eastleigh ... G	1 1⅛xr	1 1/16 1 3/16	1 0	rts May 14 '96	1 0 0	240,000	Klerksdrp	57, Leadenhall Street
East Orion	⅛ ⅜	3/16 5/16	1 0	—	1 0 0	275,000	Rand	8, Old Jewry.
" Rand ... G	7 1/16 7 5/16	7⅛ 7⅜	1 0	—	1 0 0	570,000	"	170, Winchester-ho.
Exploration	3⅜ 3⅝	3⅜ 3⅝	1 0	5/- Mar. 12 '96	1 0 0	148,000	S. Africa	30, S. Swithin's-ln.‡
Exploring L & M	1⅛ 1⅜	1⅛ 1⅜	1 0	2/ Dec. 16, '95	1 0 0	216,215	"	19, "
Ferreira ... G	19½ 20½	19½ 20½	1 0	13/ Mar. 12 '96	1 0 0	45,000	Rand	120, Bishopsgt st. Wn
French Rand	2¾ 3	2 15/16 3 1/16	1 0	—	1 0 0	480,000	Rand	28, Aus in Friars.
Geldenhuis Deep G	5⅞ 6⅛	6 6⅛	1 0	—	1 0 0	265,000	Transvaal .	30, St. Swithin's-lane.
Geldenhuis Est. G	4⅛ 4⅜	4⅛ 4⅜	1 0	6/- Jy 26 '95	1 0 0	187,500	Rand	120, Bishopsgt st, Wn.
" Main Reef	⅞ 1	1 1⅛	1 0	2/ Feb. 13 96	1 0 0	150,000	"	Warnford Court, E.C.
George Goch .. G	2 5/16 2 7/16	2 5/16 2 7/16	1 0	—	1 0 0	100,000	"	Johannesburg.
Ginsberg New ... G	1 15/16 2 1/16	1 15/16 2 1/16	1 0	—	1 0 0	130,000	Drietfon .	Warnford Court, E.C‡
Glencairn ... G	3 9/16 3 11/16	3⅝ 3¾	1 0	2/6 Feb. 13 '96	1 0 0	200,000	Rand	2, Drapers-gardens.
Gld. Fls. Deep ... G	9⅛ 9⅜	9⅛ 9⅜	1 0	—	1 0 0	600,000	S. Africa	8, Old Jewry.
G.F. of Lydenb'rg	2⅛ 2⅜	2⅛ 2⅜	1 0	—	—	—	Lydenb'rg	7, Lothbury.
G. F. of Mashonlo.	5/16 7/16	¼ ⅜	1 0	—	1 0 0	200,000	Mashonld.	19, St. Swithin's-ln.
G.F. of T.de Fuego	5/- 5/6	4/3 4/9	—	—	—	—	—	
Graskop ... G	4/3 5/	4/6 5/	5/-	1½% Mar. '93.	0 5 0	400,000	Lydenburg	2, Tokenhouse Bldgs
Gt. Estrn. Colliery	1⅛ 1⅜	1⅛ 1⅜	1 0	—	1 0 0	376,666	Grootolel	8, Finch Lane
Griqualand W ... D	8⅜ 8⅝	8⅜ 8⅝	10 0	4/ Jan 16, '96	10 0 0	105,700	Transvaal .	62, Lombard-street
Heidelbg. Est. Ex.	13/16 15/16	13/16 15/16	1 0	—	—	—	Heildelbg .	
Henderson's Trans	2 3/16 2 5/16	2¼ 2⅜	1 0	—	1 0 0	250,000	Zoutpan.bg	85, Gracechurch st.
Henry Nourse ... G	6⅞ 7⅛	6¾ 7	1 0	—	1 0 0	100,000	De Kaap ...	Warnford-court.
Hetty	⅝ ¾	⅝ ¾	1 0	—	1 0 0	110,000	Middlevei.	55, Bishopsgate st Wn
Joe's Reef ... G	3/16 5/16	3/16 5/16	1 0	—	1 0 0	57,404	"	21, Mincing Lane.
Johannesbrg Invst	3 5/16 3 7/16	3 5/16 3 7/16	1 0	20% Oct. '95	1 0 0	650,000	—	7, Lothbury.
" Pioneer	9⅝ 10	9¾ 9¾ xd	1 0	12½% Nov.,'93	1 0 0	21,000	Rand	Johannesburg.
Jubilee ... G	8⅝ 9	8¾ 9¼ xd	1 0	4/ Apr. 29 '96	1 0 0	30,000	"	8, Old Jewry.†
Jumpers ... G	7¼ 7⅝	7¼ 7⅝	1 0	6/- Mar. 27 '96	1 0 0	100,000	"	120, Bishopsgt st, Wn‡
" Deep	3¼ 3½	3¼ 3½	1 0	—	1 0 0	300,000	"	30, S. Swithin's lane.
Kimberley ... D	¼ ½ pm	¼ ½ pm	1 0	2/ Jan 16, '95	0 10 0	98,672	Kimberley	19, Finsbury circus.
" Rapt	2¼ 2½	2¼ 2⅜	1 0	—	1 0 0	125,000	"	2, Drapers-gardens.
Klerksdorp	15/6 16/	15/9 16/3	10/-	—	0 9 0	400,000	Klerksdorp	110, Cannon St.
Knight's Deep	2⅛ 2⅜	2¼ 2⅜	1 0	—	1 0 0	295,194	Rand	8, Old Jewry
Koffyfontein ... D	1 1⅛	1 1⅛	1 0	—	1 0 0	125,000	Jacobsdaal	6, Gt. St. Helen's.
Lancaster	1⅞ 2	1⅞ 2	1 0	—	1 0 0	226,500	Luip. Vlei	120, Bishopsgt st. Wn
Langlaagte Est. G	5⅜ 5⅝	5⅛ 5⅜	1 0	5/ Feb 13 '96	1 0 0	470,000	Rand	59, Holborn Viaduct
" Royal	2¼ 2⅜	2 5/16 2 7/16	1 0	rts. Mar. 8 '95	1 0 0	100,000	"	2, Drapers-gardens.
" Star	1¾ 2	1¾ 2	1 0	—	1 0 0	170,000	"	
Lisbon-Berlyn .. G	5/6 6/	5/6 6/-	2/6	—	0 2 6	883,233	Lydenburg	Suffolk House.
Lon. Paris Fin & M.	1 1⅛	1 1/16 1 3/16	1 0	—	1 0 0	500,000	—	53, Old Broad Street.
London & S. A. Ex.	14 14½	14 14½	10/	4/- Mar. 12 '96	0 10 0	100,000	S. Africa ...	19, Finsbury-circus.
Luipaards Vlei Est.	1 9/16 1 11/16	1⅝ 1¾	1 0	6% Mar. '90	1 0 0	319,003	Rand	Warnford-court.‡
Lydenburg Estate.	1 5/16 1 7/16	1⅜ 1½	1 0	—	1 0 0	190,000	Lydenburg	85, Gracech. Street
" Ld & Expl	¼ ⅜	¼ ⅜	1 0	—	1 0 0	200,000	"	120, Bishopsgte St.
" M'g. Est.	4⅞ 5	4⅞ 5⅛	1 0	—	1 0 0	300,000	"	"
Main Reef (New) G	1⅛ 1⅜	1⅛ 1⅜	1 0	—	1 0 0	111,500	Rand	15, George St., MnH
Malmani Gold Syn	3/6 4/6	3/6 4/6	2/6	—	0 2 6	200,000	Transvaal	Throgmorton House,
Marie Louise	2⅞ 3⅛	2⅞ 3⅛	1 0	—	1 0 0	60,000	Rand	15, George St, Mn H
Marievale Nigel	1 1¼	1 1¼	1 0	—	1 0 0	250,000	"	
Mashon. Agency	2⅛ 2⅜	2⅛ 2⅜	1 0	2/ Ap. 16 '96	1 0 0	160,000	Mashonald	8, Old Jewry, E.C.
" Central	⅞ 1	⅞ 1	1 0	—	1 0 0	110,000	"	"
Matabelel'd G. R'f	3¾ 4	3¾ 4	1 0	—	1 0 0	110,000	Matabelel'd	3, Copthall-buildings.
May Con. (New) G	2 15/16 3 1/16	2 15/16 3 1/16	1 0	2/- Mar. 12 96	1 0 0	236,500	Rand	4, Lothbury.‡
Meyer & Charl ... G	6⅜ 6⅝	6⅜ 6⅝	1 0	5/ Feb. 13 96	1 0 0	75,020	"	1, Crosby Square.‡
Minerva	1⅜ 1⅝	1⅜ 1⅝	1 0	—	1 0 0	150,000	"	Winchester House.
Mines Selection	¾ 1	¾ 1	1 0	—	1 0 0	100,000	—	33, Br'd St. Avenue.
Modderfontein G	7⅝ 7⅞	7⅝ 8	1 0	—	1 0 0	200,000	Rand	13, George Street
" "B" Extensn.	2⅛ 2⅜	2 2⅜	—	—	—	—	—	28, Austin Friars
Molyneux Consoli.	1 5/16 1 7/16	1⅜ 1½	1 0	—	1 0 0	220,000	Modderftn	120, Bishopsgate st
Moodies ... G	13/16 15/16	13/16 15/16	1 0	-/4 May '90	1 0 0	240,000	"	Gresham House.‡
Mozambique	1 5/16 1 7/16	1⅜ 1⅝	1 0	—	1 0 0	400,000	S.E. Africa	13, Austin Friars.
Namaqua ... C	1¼ 1⅜	1¼ 1⅜	2 0	2/6 July '91	2 0 0	94,331	Namaquald	34, Leadenhall-blds.
New African	3⅞ 4	3⅞ 4⅛	1 0	20/ Dec. 30 '95	1 0 0	190,000	—	83, Hatton Garden.
" Chimes ... G	1 1¼	1⅛ 1⅜	1 0	1/- Mar. 27 '96	1 0 0	100,000	Rand	8, Old Jewry, E.C
" Comet	2¾ 3	2¾ 3	1 0	—	1 0 0	175,000	Heidelburg	Winchester-house.
" Crœsus ... G	1 9/16 1 11/16	1 9/16 1 11/16	1 0	rts Apr 17 '95	1 0 0	255,000	Langlaagte	120, Bishopsgt.st.Wn
" Gordon ... D	5/6 6/6	6/ 7/	1 0	5% Dec. '89	1 0 0	404,344	Griqualand	110, Cannon-street.
" Heriot ... G	9⅝ 9⅞	9⅞ 10 xd	1 0	4/ Apr. 29, '96	1 0 0	88,750	Rand	96, Gresham Ho EC
" Jagersf. ... D	10⅛ 10⅜	10⅛ 10⅜	5 0	10/ Apr. 15 '96	5 0 0	200,000	Transvaal .	5, Copthall-buildings
" Kleinfontein G	3⅞ 4	3⅞ 4⅛	1 0	12½pc Mar.'95	1 0 0	82,500	Rand	Winchester House
" Midas	3⅞ 4	4 4⅛	1 0	rts Jan. 16, '96	1 0 0	150,000	Mid'le Vlei	120, Bishopsgt-st, W
" Primrose ... G	5 11/16 5 13/16	5¾ 6	1 0	5/ Feb. 13, '96	1 0 0	278,750	Rand	2, Draper's-gardens.
" Rietfontein G	3⅞ 4⅛	4 4⅛	1 0	—	1 0 0	160,000	—	Warnford-ct., E.C.
" S.Augustine D	8/ 8/6	8/3 8/9	1 0	—	0 10 6	299,137	Griqu'ld W	30-1, St. Swithin's-l,
" Spes Bona ... G	1⅜ 1⅝	1⅜ 1⅝	1 0	—	1 0 0	113,701	Rand	24, N. John-st., L'pl
" Steyn Estates	1 5/16 1 7/16	[illegible]	1 0	—	1 0 0	128,000	Heidelber	19, Bury St., E.C.

AFRICAN MINES—(*Continued*).

Name.	Closing Price, May 15, 1896.	Closing Price, May 8, 1896.	Am't. of Share	When last XD and Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
			£					
Nigel ... G	3⅛ 3⅜	3⅛ 3⅜	1 0	rts Aug 10 '95	1 0 0	160,000	Rand	96, Gresham Ho., EC
" Deep ... G	1¾ 1⅞	1¾ 1⅞	1 0	—	1 0 0	195,000	Heidelberg	8 Old Jewry.
North Randfontein	1¾ 2	1⅞ 2⅛	1 0	—	1 0 0	235,000	—	8, Princes street
Nourse Deep	3¾ 4⅛	4 4⅛	1 0	—	1 0 0	375,000	Rand	120, Bishopsgt.-st., Wn
Oceana	1⅝ 1¾	1 11/16 1 13/16	1 0	2/-Nov. 28 '95	1 0 0	357,400	Wtrbg Lyn	13, Austin Friars.
" Develpmnt	⅝ ¾	9/16 11/16	1 0	—	1 0 0	50,000	Heidebrg.	"
" Minerals	⅝ ⅞	13/16 15/16	1 0	—	1 0 0	500,000	"	"
Orange F.S.E. ... D	3¼ 3⅜	3¼ 3⅜	1 0	2/6 Apr., 29, 96	1 0 0	254,000	OrangeF.S.	10, Moorgate-street.
Orion (New) ... G	1 15/16 2 1/16	2 1/16 2 3/16	1 0	10% Aug. '95	1 0 0	30,000	Rand	8, Old Jewry.
Paarl Central ... G	1⅜ 1⅝	1 7/16 1 9/16	1 0	—	1 0 0	138,750	Transvaal .	120, Bishopsgt st, Wn.
Pardy's Mozambq	1⅜ 1⅝	1⅜ 1⅝	10/	rts Mar 12 '96	0 10 0	60,000	S.E. Africa	Broad St. Avenue.
Piggs Peak ... G	⅜ ½	⅜ ½	1 0	—	0 17 0	200,000	Swazieland .	6, Queen-street-place
Porges Randfontn.	1⅛ 1⅜	1⅝ 1⅞	1 0	2/ Feb. 13 '96	1 0 0	457,500	Rand	1, Bank Buildings
Potchefstroom ... G	⅜ 7/16	⅜ ½	1 0	—	1 0 0	389,750	Potchefst...	19, Bury-st., E.C.
Princess Estate G	2⅞ 3	2 13/16 2 15/16	1 0	—	1 0 0	125,000	Rand	33, Cornhill, E.C.
Rand Central Ore	2 2¼	2 2¼	1 0	25 p c Aug. 95	1 0 0	115,000	—	8, Princes-street, E.C.
Randfontein ... G	3 3⅛	3⅛ 3¼	1 0	—	1 0 0	2,000,000	Rand	1, Bank Buildings
Rand Mines ... G	28⅛ 29	29 29⅛	1 0	—	1 0 0	332,708	"	120, Bishopsgt st. Wn‡
Rand-Rhodesia Ex	⅞ 1	⅞ ⅞	1 0	10 p.c. Oct. '95	1 0 0	25,000	R&Rhodesa	123, "
Rhodesia Ex & Dv.	5¾ 6¼	6 6⅛	1 0	—	1 0 0	50,000	Mt & Mash'l	8, Old Jewry.
Robinson (SA) Bank	6 6⅛	6 6¼	4 0	4/ Apl. 15, 96	4 0 0	750,000	—	8, Prince's-street
" Deep	7⅞ 8⅛	7 8	1 0	—	1 0 0	500,000	M'nR'fR'nd	120, Bishopsgate st.
" Diamond	1⅛ 1¼	1⅛ 1¼	1 0	—	1 0 0	350,000	Kaal Valley	8, Prince's street
" Gold	9 9⅛	9⅛ 9⅜	5 0	8/ Feb 13 '96	5 0 0	550,000	M. Rf.'rand	28, Austin Friars E.C
" Randftn.	1⅜ 1½	1½ 1⅝	1 0	—	1 0 0	517,000	Rand	8, Prince's-street.
Roodepoort Deep	2⅞ 3	3 3⅛	1 0	—	1 0 0	170,000	"	8, Old Jewry, E.C.
Roodepoort Un. G	5⅛ 5¼	5⅛ 5⅜	1 0	5/ Feb 13 '96	1 0 0	130,000	"	Warnford-court.‡
Rose Deep	4⅞ 5⅛	5 5⅛	1 0	—	1 0 0	300,000	M. Rf.'rand	30-31, S.Swith's. lane‡
Rothery Block	8/ 10/	8/ 10/	1 0	—	—	—	—	55, Bishopsgate st.
St. Angelo	4⅜ 4⅝	4⅜ 4⅝	1 0	—	1 0 0	175,000	—	Winchester House.
St. Helen's Devel.	2⅜ 2⅝	2⅜ 2⅝	1 0	—	1 0 0	47,950	S. Africa ...	13, S. Helen's Place.
Salisbury New	4¼ 4½	4⅛ 4⅜	1 0	—	1 0 0	98,000	Rand	96, Gresham Ho., EC
Sheba ... G	1 15/16 2 1/16	1⅞ 2	1 0	1/- Apr. 15 '96	1 0 0	850,000	Lydenburg	18, S Helen's place.
Simmer & Jack ... G	5 6	5 6	1 0	2/ Aug 14 95	1 0 0	250,000	Rand	8, Old Jewry.
S.A Gold Trust New	7⅛ 8	7⅛ 8	1 0	15/ Feb 27 '96	1 0 0	250,000	S. Africa ...	"
South West Rand	5/16 7/16	5/16 7/16	1 0	—	1 0 0	158,090	Rand	Winchester House.
Spitzkop (New) G	16/ 17/	16/ 17/	1 0	—	1 0 0	99,070	Lydenburg	15, Bishopsgt-st, W.
Stanhope ... G	1 1⅛	1 1⅛	1 0	2/- Oct 20 '95	1 0 0	34,000	Rand ...	93, Gresham Ho., EC
Sutherland R. ... G	5/ 6/	5/ 6/	1 0	—	1 0 0	220,000	Zoutpansbg	Dashwood Ho.
Tati Concessions	2⅛ 2¼	2⅛ 2¼	1 0	rts Jy. 22 '95	1 0 0	392,000	—	Gresham House.
Trans. Coal Trust	1⅝ 1¾	1⅝ 1⅞xd	1 0	1/-Apr. 29, '96	1 0 0	439,965	Rand	Broad-st. House, E.C
" Consolidatd	2 1/16 2 3/16	2 1/16 2 3/16	1 0	—	1 0 0	485,131	Transvaal	120, Bishopsgte st Wn.
" Est. & Dev.	13/16 1 1/16	15/16 1 1/16	1 0	—	1 0 0	428,600	"	10, New Broad-st. E.C.
" Gen. Assoc.	2⅜ 2⅝	2⅜ 2⅝	1 0	10/-Mar. 12 '96	1 0 0	185,000	"	30, S Swithin's lane.
" Gold Fields	3⅛ 3⅜	3⅛ 3⅜	1 0	8/- Apr. 15 '96	1 0 0	135,000	S. A. R.	120, Bishopsgt. st. Wn
" Land	⅜ ½	7/16 9/16	1 0	—	1 0 0	79,915	Transvaal .	25, Abchurch Lane.
Treasury ... G	3⅜ 3⅝	3⅞ 4	1 0	12½% Sep.'9	1 0 0	135,000	Rand	Warnford Court.
United Exploratn.	⅞ 1	⅞ 1	1 0	—	1 0 0	250,000	—	120, Bishopsgte St.
Un. Ivy Reef ... G	⅞ 1	⅞ 1	1 0	2½ Jan. '94	1 0 0	45,000	Transvaal .	110, Cannon-street.
U. Langlaagte (N) G	1¼ 1⅜	1⅛ 1⅜	1 0	—	1 0 0	146,000	Rand	85, Gresham Ho., E.C
" Pioneer	¾ 1	¾ 1	1 0	—	1 0 0	75,000	De Kaap ...	16, S.Helen's-pl., E.C
" Rhodsa. G F	⅜ ⅞	⅜ ⅞	1 0	—	0 10 0	225,500	Rhodesia ...	13, George street, E.C
Van Ryn ... G	5⅛ 5⅜	5⅜ 5⅝	1 0	4/- Jan. 16 '96	1 0 0	160,000	Rand	18, St. Swithin's-ln,
" North	¾ 1	¾ 1	1 0	—	1 0 0	116,091	—	"
" West	3⅜ 3⅝	3¼ 3⅜	1 0	—	1 0 0	120,000	Rand	"
Venterskroon	¾ 1	¾ 1	—	—	1 0 0	125,000	Rooderand	8, Old Jewry
Vesta	⅞ 1⅛	⅞ 1⅛	1 0	—	1 0 0	130,000	Rand	Winchester House
Village Main Reef	6¾ 7	6¾ 7	1 0	—	1 0 0	177,00	"	8, Old Jewry.
Vogelstruis Estate	3⅜ 3⅞	3⅜ 3⅞	1 0	—	1 0 0	200,000	"	Winchester House.
" Cons. Deep	2⅜ 2⅝	2¼ 2½	1 0	—	1 0 0	327,750	"	16, Geo. St. Mn. Ho‡
Wassau ... G	¾ ⅞	⅝ ⅞	1 0	—	1 0 0	100,000	Gold Coast	147, Cannon-street
Wemmer ... G	9¼ 9½	9⅜ 9⅝xd	1 0	10/ Apr. 29, 96	1 0 0	55,000	Rand	19, Bury-street.‡†
Western Nigel	11/16 13/16	13/16 15/16	1 0	—	1 0 0	207,000	Main Reef	Suffolk House.
West Rand ... G	2 5/16 2 7/16	2 5/16 2 7/16	1 0	—	1 0 0	240,000	Rand	13, Geo. St., Mans.
Willoughby's Con	1 11/16 1 13/16	1 11/16 1 13/16	1 0	—	1 0 0	700,000	Mashonald	3, Copthall-bldgs.
Witwatersrand G	6⅜ 6⅝	6⅜ 6⅝	1 0	—	1 0 0	250,000	Rand	19, Bury-st., E.C.
Wolhuter ... G	7¾ 8	7¾ 8	1 0	rts Apr 26 '94	1 0 0	130,000	"	Warnford-court.†
Worcester ... G	4⅜ 4⅝	4⅜ 4⅝	1 0	2/-Mar 12 '96	1 0 0	90,727	Rand	8, Old Jewry.‡
Zambesia Explora.	2¼ 2⅜	2⅜ 2⅝	1 0	—	1 0 0	85,000	Transvaal .	30-31, Clement's lane

BRITISH MINES.

Name.	Closing Price, May 15, 1896.	Closing Price, May 8, 1896.	Am't. of Share	When last XD and Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
			£		£ s. d.	£		
Basset	1 1⅛	18/ 20/	1 0	—	1 0 0	65,000	Cornwall	Redruth.
Blue Hills ... CT	1/ 2/	1/ 2/	*	2/- May, '81	5 19 5	5,353	"	Camborne.
Carn Brea ... T	7/6 8/6	8/ 9/		2/6 Dec., '93	22 8 5	6,000	"	Carn Brea.
Devon Gawton CA	⅞ 1	15/ 20/	1 0	—	0 12 6	25,000	Tavistock	8, Finsbury circus.
" Gt Cons. CA	1 1⅛	18/ 20/	5 0	1/6 May '95	2 0 0	10,240	Devon ...	"
Dolcoath ... T	14/ 15/	14/ 15/	1 0	—	1 0 0	188,000	Cornwall	Camborne.
"	5/ 6/	3/ 4/	1 0	—	0 7 6	25,000	"	"
Drakewalls CTM	/3 /6	/6 /9	5/	—	0 2 0	61,856	"	Dashwood House.
East Pool ... AT	2 2⅛	2⅛ 2⅜	*	1/6 Sept. '94	0 9 9	8,400	Cornwall	Illogan.
Great Laxey ... L	1¼ 1⅜	1⅛ 1⅜	4 0	5/- Apr., '92	4 0 0	15,000	I. of Man	Douglas, Isle of Man‡
Isle of Man ... L	5⅛ 6	5⅞ 6⅛	5 0	2% Feb. 27'96	5 0 0	14,000	I. of Man	Chester.
Killifreth ... T	5/9 6/3	5/6 6/6	*	11/6 Nov., '94	5 15 6	6,000	Cornwall	Truro.
Leadhills ... L	1 1⅛	1 1⅛	6 0	1/- Oct. 16 '95	6 0 0	20,000	Lanarksh.	30, Finsbury-circus.
Levant ... CT	4 4¾	4 4¾	*	4/- Nov., '94	11 9 6	2,500	Cornwall	Penzance.
Polberro ... T	¼ ½	¼ ½	*	—	2 1 5	18,000	S.Agnes, Cl.	37, Walbrook.
So. Condurrow TC	1/6 2/	1/ 2/	*	3/6 Apr. '93	7 17 6	6,123	Cornwall	20, Great St. Helens
" Crofty TA	⅛ ¼	1/ 2/	*	—	17 10 6	5,769	"	Pool, Cornwall.
Tincroft ... T	9/ 10/	9/ 10/	*	2/- Aug. '94	15 7 6	6,000	Cornwall	Carn Brea.
Weardale ... L	8/9	8/9	1 0	1/3 Oct. '90	1 10 0	60,000	Durham...	3, Lombard-court.
" Kitty ... T	1⅞ 2⅛	1⅞ 2⅛	*	2/- Dec. '94	1 2 0	6,000	Cornwall	37, Walbrook.
Wheal Agar ... TA	4/ 5/	4/ 5/	*	2/6 Aug. '88	23 15 2	8,000	"	Redruth.
" Friendly ... T	1/ 1/6	1/ 1/6	*	—	0 12 9	10,000	"	2, Copthall Bldgs. E.C
" Grenville T	6⅜ 6⅝	6⅜ 6⅝	*	3/- Nov 28 '95	18 2 0	6,000	"	7, Union-court, E.C.
" Kitty ... T	⅛ ¼	2/ 3/	*	3/- Mar. '89	4 5 6	8,590	"	Truro.
" Metal & F. T	3/ 4/	3/ 4/	*	—	0 3 0	60,000	"	14 Broad-street Av.

INDIAN AND ASIATIC MINES.

Name.	Closing Price, May 15, 1896.	Closing Price, May 8, 1896.	Am't. of Share	When last XD and Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
Balaghat Mysore G	2/6 3/	2/9 3/3	1 0	—	0 19 0	159,945	India	6-7, Queen-street-pl.
Burma Ruby ... R	13/16 15/16	13/16 15/16	1 0	—	0 18 0	298,551	Burmah ...	Suffolk House E.C.
Champion Reef ... G	6 13/16 7 1/16	6 11/16 6 13/16	1 0	4/- Apr. 29 '96	1 0 0	220,000	India	6-7, Queen-street-pl.
Colar Central ... G	1/ 1/6	1/- 1/6	1 0	—	1 0 0	200,000	"	Dashwood Ho., E.C.
Coromandel ... G	1⅜ 1⅝	1 1⅛	1 0	—	0 17 6	95,000	"	6-7, Queen-st.-place
GoldFlds Mysore G	1 5/16 1 7/16	1 1 1/16	1 0	2/- Feb '96	1 0 0	275,000	"	6-7, Queen-street pl.
Kadur Mysore	4/ 5/	4/ 5/	5/	—	0 5 0	430,000	"	Copthall House, E.C
Kempinkote GdFd	/9 1/3	/6 1/3	5/	—	0 3 6	750,000	India	6-7, Queen-st.-pl.
Mysore ... G	6⅜ 6⅝	6 6⅛	1 0	4/6 Mar. 12 '96	1 0 0	248,354	"	6-7, Queen-street-pl.
My. Harnhalli ... G	/9 1/3	-/9 1/3	1 0	—	0 18 0	100,007	"	1, East India ...
" Reefs ... G	8/ 9/	7/6 8 6	1 0	—	1 0 0	160,000	"	6-7, Queen-street-pl.
" West (N) G	1 1⅛	1 1/16 1⅛	1 0	rts. Jan. 16 '95	0 19 0	127,402	"	2, Gt. Winchester St.
" Wynaad G	1 1⅛	1 1⅛	1 0	rts. Jan. 16 '96	0 19 0	125,000	"	"
Nine Reefs ... G	3/6 4/	3/3 3/9	10/	—	0 10 0	250,000	"	6-7, Queen-street-pl.
Nundydroog ... G	2 13/16 3 1/16	2 13/16 2 15/16	1 0	2/- Mar 12 '96	1 0 0	200,000	"	"
Ooregum (D.O.) G	3⅛ 3⅜	3 1/16 3 3/16	1 0	2/6 Apr. 15 '96	1 0 0	145,000	"	"
" (10% Pref.).	3⅞ 4	3 13/16 3 15/16	1 0	2/6 Apr. 15 '96	1 0 0	107,011	"	"
" (10% Pref.).	3⅛ 3⅜	3⅛ 3⅜	1 0	2/6 Apr. 15 '96	0 5 0	12,989	"	"
Pahang Kabang T	3/16 5/16	3/16 ⅜	1 0	—	1 0 0	200,000	Malay Pn.	4a, Jeffrey's sq.
" Corp.	¼ ⅜	¼ ⅜	—	—	—	—	—	
Yerrakonda ... G	/9 1/3	/9 1/3	4/	—	1 0 0	187,401	Mysore ...	6-7, Queen-street-pl.

"THE MINING JOURNAL" SHARE LIST—(Continued)

AUSTRALIAN AND NEW ZEALAND MINES.

Name.	Closing Price, May 15, 1896	Closing Price, May 8, 1896.	Am't. of Share	When last XD and Dividend.	Called up per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Achilles Gld. Fld.	2/4½ 2/7½	2/3 2/9	2/6	—	0 2 6	642,456	Otago, N.Z	11, Poultry.
Aladdins Lamp G	1⅛ 1⅜xd	1 5/16 1 7/16	1 0	1/ May. 14 '96	1 0 0	100.0.0	L'knN.S.W	4-6, Throg. Avenue.
Anglo-Con. G. Syn	2⅜ 2⅝	2⅜ 2⅛	1 0	100% '95	1 0 0	99,000	—	22, Austin Friars.
Founders...	35 45	35 45	1 0	£4 16/8 2-5d'95	1 0 0	1,000	—	,,
,, French Exp	¾ 1pm	¾ 1 pm	1 0	5/- Oct 30 '95	0 10 0	40,000	W. Austral	79, Queen Street.
,, Ger.Explor.	9/16 11/16 pm	11/16 13/16pm	1 0	5/ Oct. 30 '95	0 10 0	50,000	,,	,,
Arrow BrownhillG	⅜ ¾	⅝ ¾	1 0	—	1 0 0	90,007	Cool.,W.A.	4, Gt. Winchester St.
Assoc. Gold Mines	2 5/16 2 7/16	1⅞ 2	1 0		1 0 0	375,000	,,	20, Bucklersbury
Australasian ......G	3/9 4/3	3/9 4/3	1 0	-/8 Mar., '92	1 0 0	10,000	Gymp.Q'ld	6, Queen-st. place
Australian C	—	—	20 0	-/9 Aug. '95	7 7 6	218,315	S. Austral.	42, New Broad-street
A. s. Bro. Hill Con.	-/9 1/3	/9 1/3	1 0	1/- June, '91	1 0 0	22,708	BarR.NSW	Winchester House.
Baker's Creek ...G	11/16 13/16	⅜ ⅞	1 0	1/- May '95	0 17 6	500,000	H'gveNSW	Hillgrove, N.S.Wale
Bardoc.............G	⅜ ¾	⅜ ¾	1 0	—	1 0 0	165,000	W. Austral	43, Threadneedle st.
Bayley's Reward G	4/ 5/	4/ 5/	1 0	-/4 Dec. 94	1 0 0	480,000	Coolgardie	F'sb'y. H. Bl'mf'ld St.
Big Blow ....G	⅝ ¾	⅜ ¾	1 0	—	1 0 0	150,000	,,	151, Cannon Street.
Blackett's Claim G	⅜ ½	⅜ ⅛	1 0	—	1 0 0	55,000	,,	16, St. Helen's Place.
Black Flag Consld.	1⅛ 1⅜	1⅜ 1⅛	1 0	—	—	—	W. Austral	4, Bishopsgate St. Wn
,, Propty.	11/16 13/16	¾ ⅞	1 0	—	1 0 0	140,000	Coolgardie	1, Metal Exch. Bldgs
Blagroves Freehld	3/9 4/3	3/9 4/3	2/6	—	0 2 6	500,000	Corom. N.Z	Dashwood House.
Bonnie Dundee G	6/ 7/	6/ 7/	1 0	—	0 18 6	120,000	C. T.Q'land	16, S. Helen's Place
Brilliant.........G	13/16 15/16	13/16 15/16 xd	2 0	-/3 Apr.27,'96	2 0 0	250,000	,,	Charters Towers.
,, Bl'ck...G	15/16 1 1/16	15/16 1 1/16	1 0	-/9May 14 '96	1 0 0	70,000	,,	16, S. Helen's Place
,, St.Geo.G	1⅛ 1⅜xd	1¼ 1⅞	10/	/9 Apl. 15 '96	0 10 0	72,000	,,	Charters Towers.
Brt. Brok. Hill S	1⅝ 1⅛	1 1/16 1 3/16	1 0	—	1 0 0	240,000	N.S. Wales	Dashwood Ho., E.C.
Broad Arrow	2/3 2/9	2/3 2/9	5/	—	0 4 6	100,000	W.Feather	57, Moorgate Street.
Broken Hill Prop.S	2⅛ 2⅜	2 7/16 2 7/16	8/	1/- Apl. 15 '96	0 8 0	960,000	N. S. Wales	3, Gt. Winchester st.
Brownhill Propty.	1 1/16 1 3/16	⅝ ⅞	1 0	—	1 0 0	125,000	,,	4, Gt. Winchester st
Burbank's Birthd'y	1⅝ 1⅜	1⅝ 1⅛	1 0	—	1 0 0	150,000	Coolgardie	Copthall House.
Caledonian ......G	1/6 2/6	1/6 2/6	1 0	—	—	120,000	W. Austral	Portland House.
Cassidy Hill ......G	1⅜ 1⅛	15/16 1 1/16	1 0	—	1 0 0	115,000	Coolgardie	9-10, King Street, E.C
Central Boulder G	13/16 15/16	13/16 15/16	1 0	—	1 0 0	93,522	K'lg'rl,WA	Wor'st'r Ho., Walbr'k
,, Exp. & Invst.	3/16 1/16dis	3/16 1/16 dis	1 0	4·3d Mar 12'96	—	—	W. Austral	1, Met. Exchg. Bldgs
,, ,, of W.A.	1 1/16 1 3/16	1 1⅛	1 0	1/7½Mar 27 96	1 0 0	122,000	W. Austral	2, ,,
Charters Tow. ...G	2/ 2/6	1/ 1/6	10/	—	0 9 6	200,000	Queenslnd	110, Cannon Street
,, Consolid....	1/ 1/6	/6 1/	10/	—	0 9 6	300,000	,,	110, ,,
Colonial Finance...	4⅜ 4⅞pm	4 4½pm	1 0	10/ Mar. 27 '96	0 10 0	21,140	W. Austral	139 ,,
,, Gold Fields	¾ 1 pm	⅜ ½pm	1 0	—	0 12 6	75,250	,,	70, Cornhill.
Con. G. M. of W. A.	7/16 9/16	7/16 9/16	1 0	—	1 0 0	246,779	Pilbarra ...	30, Moorgate Street.
,, Murchison ...	⅝ ¾	⅝ ¾	1 0	—	1 0 0	225,533	Murc.,W A	Broad Street House.
Contl.&W.A. Trust	1⅝ 1⅞	1 1⅛	1 0	—	1 0 0	104,467	W. Austral	Broad Street House.
Coolgardie Gold ...	1 1/16 1 3/16	1 1/16 1 3/16	10/	1/ Feb. 16 '96	0 5 0	90,000	Cool.W.A.	Broad Street Avenue
,, Mint & I.Kg.	1 9/16 1 11/16	1 1⅛	1 0	—	1 0 0	150,000	,,	30, S. Swithin's ln.
Craven' Cal. ... G	1/6 2/	1/6 2/6	4/	-/3 June 94	0 4 8	100,000	Queenslnd	30-1, S. Swithin's-le.
Croesus So. United	2⅜ 2⅜	2 3/16 2 5/16	1 0	—	1 0 0	115,000	Hann'sWA	Blomfield House
Crown United......	1 1/16 1 3/16	1⅛ 1⅜	1 0	—	1 0 0	75,000	—	110, Cannon-st., E.C.
Cumbrlnd (New)G	/9 1/3	/9 1/3	1 0	2/6 Dec.,'87	0 19 0	184,890	Queenslnd	Blomfield House. E C
DayDawn B.&W.G	12/3 12/9	12/3 12/9	1 0	-/6 Mar 12 '96	1 0 0	498,400	,,	16, S. Helen's Place
,, P. C. G	3/3 3/9	2/9 3/3	1 0	-/6 Apr, '92	1 0 0	490,000	,,	Winchester Ho., E C
Eaglehawk.........G	1/ 1/6	1/ 1/6	1 0	—	0 13 0	120,000	Victoria ...	71-72, King Wm. St.
Eagle's Nest.........	par ¼ pm	par ¼ pm	1 0	—	1 0 0	72,500	Mt.Margrt	Finsbury House.
Explorers Synd. ...	par ¼ pm	par ½ pmxd	1 0	2/6 April 29'96	0 5 0	9,000	W.Austral	Copthall House
Fingall R'fs, Extd	11/16 13/16	9/16 11/16	1 0	1/4 Jan. 16 '96	1 0 0	150,000	,,	4, Sun Court
Florence...........G	2 3/16 2 5/16	2 1/16 2 3/16	1 0	—	1 0 0	50,000	,,	16, St. Swithin's ln
Gibraltar Cons.......	1⅛ 1⅜	1 3/16 1 5/16	1 0	—	1 0 0	300,000	N S Wales.	6, Queen-street-place
Gladiator ....G	⅜ ⅝	⅞ 1⅛	1 0	—	1 0 0	—	W. Austral	43, Threadneedle st
Glenrock .... G	1/9 2/3	1/9 2/3	1 0	—	0 8 0	225,000	N. Zealand	3-5, Queen-st, E.C.
Golden Cement G	3/16 5/16pm	5/16 7/16pm	1 0	—	1 0 0	175,000	W.Austral	3, Princes Street, EC
,, Crown...G	2 9/16 2 11/16	2⅜ 2⅞	1 0	—	1 0 0	100,000	,,	54, Old Broad Street;
,, Gate......G	/6 1/6	/6 1/6	10/	—	0 10 0	150,000	Queenslnd	34-36, Gresham-st.
,, Horse Shoe...	1⅜ 1⅞	1⅜ 1⅝	1 0	—	1 0 0	—	W.Austra.	13. Helen's Place
,, Link ......G	1 1/16 1 3/16	1 1/16 1 3/16	1 0	5/- Oct 30'95	1 0 0	90,000	,,	9-10, King Street, E.C
,, Plum......G	1⅜ 1⅞	1 5/16 1 7/16	1 0	—	1 0 0	120,000	,,	4, Bishopsgate Street
Gold Estates.........	2⅛ 2⅜	2⅜ 2⅝	1 0	3/ Dec 30 '95	1 0 0	60,000	,,	20, Bishopsgte-st Wn
Great Boulder ...G	9⅝ 9⅞xd	9⅜ 9⅞	1 0	2/- May 14 '96	1 0 0	240,000	Yilgarn ...	3, Gracechurch st.
,, ,, Junction	1⅛ 1⅜	1⅜ 1⅝	—	—	—	—	,,	Worc. Ho., Walbrook
,, ,, M'n R'fs	1 11/16 1 13/16	1⅜ 1⅝	10/	—	0 10 0	240,000	—	3, Princes Street.
,, Fingall Rfs.	1 5/16 1 7/16	1 1⅛	1 0	5% Jan. 16, 96	1 0 0	175,000	Kurnalpi	Broad Street House
Gresham Synd. ..	⅜ 1pm	⅝ ⅞ pm	1 0	4/- Oct 30 '95	1 0 0	50,000	W. Austral	13-14, Abchurch ln.
Hainault	1⅞ 2⅛	1⅞ 2⅛	—	—	—	—	—	82, Gordon st., Glas.
HamptonGoldFlds	1 1⅛	⅝ ¾	1 0	—	0 10 0	—	—	9, S. Mildred's Ct.
,, GoldHill	-/6 1/-	/6 1/	1 0	—	—	—	—	93-94, Gracechurch st
,, Plains...	5⅝ 5 5/16	5 5⅝	1 0	—	1 0 0	300,000	Cool. W.A.	29, S. Swithin's lane
,, PlainsEx	8/ 9/	8/6 9/6	1 0	—	0 18 0	180,000	,,	Suffolk House, E.C.
Hannan's BrwnHil	7 7¼	6⅞ 7⅛	1 0	—	1 0 0	65,000	,,	Broad Street House.
,, Main Reef...	9/6 10/6	9/6 10/6	10/	—	0 10 0	—	Kalg.W.A.	18, St. Swithin's ln.
,, North..........	1 1⅜	1 1/16 1 3/16	1 0	—	1 0 0	51,107	,,	33, Cornhill.
,, 100 Acre.......	¾ 1	¾ 1	1 0	—	—	—	,,	Dashwood House.
,, Oroya..........	1 1/16 1 3/16	1⅛ 1⅜	1 0	—	1 0 0	—	,,	20, Bucklersbury
,, Prop..........	2 9/16 2 11/16	1⅞ 2	1 0	—	0 10 0	—	—	139, Cannon Street.
,, Reward... G	4⅛ 4⅜	3⅜ 4⅛	1 0	—	1 0 0	70,000	Hann.WA	Bartholomew Ho.
,, Star..........	1 9/16 1 11/16	1 3/16 1 5/16	1 0	—	1 0 0	—	E.Coolgde.	Finsbury HouseE.C
Hauraki............ G	14/ 15/	13/6 14/6	2/6	1/ Mar. 27 '96	0 2 6	250,000	Coromndl.	Dashwood Ho.; E.C
Hawk's View	⅜ ⅝	⅜ ⅝	1 0	—	1 0 0	40,000	W. Austral	71-72, King Wm. St.
Hit or Miss	1⅞ 2	1⅛ 1⅞	1 0	—	1 0 0	120,000	Cool.,W.A.	1, Queen Vic. St.
Idaho ....GS	4/6 5/6	4/6 5/6	10/	-/6 Jan. 16 '96	0 5 0	142,439	W. Austral	Copthall House.
Kaboonga ....G	1/3 1/9	1/ 1/6	10/	—	0 9 9	249,250	Queenslnd	70-71, Bishopsgate st
Kalgurli...............	1⅛ 1⅜	1⅜ 1⅜	1 0	—	1 0 0	34,000	W. Austral	40, Threadneedle-st
Kapanga.............G	14/6 15/6	14/9 15/3	1 0	rts May 24 '95	0 19 6	249,760	N.Zealand	9, New Broad-street.
Kinsella (New)...G	7/6 8/6	7/6 8/6	1 0	—	0 18 0	80,340	Murchison	33, Broad-st. Avenue
Kintore ....G	⅜ ½pm	¼ ½ pm	1 0	—	0 15 0	44,000	W. Austral	18, Abchurch lane.
Komata Reefs	6/6 7/	5/9 6/3	5/-	—	0 5 0	—	Ha'raki,NZ	Dashwood House.
Kurnalpi............G	6/6 7/6	8/ 9/	1 0	—	—	—	Coolgardie	Throgmorton House
Lady Loch..........	4 1/16 4 3/16	3⅞ 4	1 0	—	1 0 0	70,000	,,	34-36. Gresham-st.
,, Mary Amalg.	¾ 1	¾ 1	1 0	—	1 0 0	46,000	Murchison	Finsbury House.
,, Shenton	2⅞ 3⅛	2 13/16 2 15/16	1 0	—	1 0 0	—	—	18, St. Swithin's ln
LakeView& E.Bldr	6¾ 7	4⅜ 4⅜	10/	-/6 Jan. 2 '95	0 7 6	—	—	90, Cannon Street.
Limerick	1 1/16 1 3/16	1 1/16 1 3/16	1 0	—	1 0 0	52,537	Coolgardie	Leadenhall Buildgs.
Ln. & Con. Invest.	⅛ 3/16 pm	⅛ 3/16 pm	1 0	—	1 0 0	500,000	W. Austral	79, Queen Street.
Ln. & Globe Fin.	3 13/16 3 15/16	3 1/16 3 3/16	1 0	rts Mar. 27 '96	0 15 0	—	,,	15, Austin Friars.
Londonderry......G	7/ 8/	7/ 8/	1 0	—	1 0 0	467,000	,,	3, Gracechurch-st.
L.& W. Aust. Expl.	2 2⅛	1 13/16 1 15/16	1 0	4/-Nov 29 '94	1 0 0	270,100	,,	Broad Street Ho.
Ln. W. A. Invest.	2⅜ 2⅞	2⅜ 2⅞	1 0	4/ Oct 16 '95	1 0 0	100,000	,,	,,
Mainland Cons. G	3 11/16 3 13/16	2 13/16 3 1/16	1 0	—	1 0 0	150,000	Murchison	54 Old Broad Street
Mawson's Rewrd.G	9/16 11/16	9/16 11/16	1 0	—	1 0 0	60,000	,,	28 & 29, S.Swithin's ln
Menzies Gold Est.	1 3/16 1 5/16	1 1⅛	1 0	—	1 0 0	—	,,	Broad Street House
,, Gold Reef	1 13/16 2 1/16	1⅜ 1⅞	1 0	—	1 0 0	175,000	,,	2a, Old Broad Stree
,, (O'Driscoll)	1⅜ 1⅛	1⅝ 1⅞	1 0	—	1 0 0	—	,,	16, Tokenhouse Yard
Mills' Day DawnG	⅝ ⅞	¾ ⅞	1 0	-/6 Aug 29 '95	0 15 6	300,000	Queenslnd	16, S. Helen's Place
Mossman ....G	2/6 3/6	3/6 4/6	1 0	—	0 19 0	185,000	N.S. Wales	Bishopsgate House
Mount Lyell..........	5⅜ 6⅛	5⅞ 6⅛	3 0	—	3 0 0	300,000	Tasmania	Finsbury House
Mount Margaret...	2 11/16 2 13/16	2⅝ 2⅞	1 0	—	1 0 0	—	W. Austral	28, St. Swithin's ln.
,, Morgan G	3⅜ 3⅞xd	3⅜ 3⅞	1 0	-/6 May 14,'96	0 17 6	1,000,000	Queenslnd	9, Gracechurch-st.
,, Rowe	1 5/16 1 7/16	1 5/16 1 7/16	1 0	—	1 0 0	75,000	Coolgardie	44, Coleman Street
MurchisonN.Ch'm	10/ 11/	8/6 9/	1 0	1/- Oct 30 '95	1 0 0	100,000	,,	23, College Hill.
N'e Hauraki Props	4/6 5/-	4/9 5/3	5/	—	0 5 0	200,000	Ha'raki,NZ	Dashwood House.
,, Queen ......G	7/ 8/	8/9 9/3	1 0	-/6 Sep 12 '95	0 13 6	158,915	Queenslnd	71-72, King Wm. St.
Norseman	1⅜ 1⅛	1 7/16 1 9/16	1 0	—	1 0 0	200,000	Dundas ...	30, S. Swithin's lane
North Boulder.......	12/6 13/6	12/ 13/	10/-	—	0 10 0	—	W. Austral	18, Helen's Place
,, Coolgardie ...	1/ 1/6	1/ 1/6	5/	—	0 4 0	400,000	Pilbarra ...	226, Winchester Ho.
,, Kalgurli	⅜ 1	⅞ 1	1 0	—	—	—	—	11, Abchurch lane
,, Q'ld. & Agency	1⅛ 1⅜	1⅛ 1⅜	1 0	30% Aug. '95	1 0 0	90,000	Queenslnd	10 New Broad Street
Ossum G M Assoc	¾ 1	¾ 1	1 0	—	1 0 0	80,000	—	Broad-streeet House
Paddington Cons.	1⅜ 1⅜	1 5/16 1 7/16	1 0	—	1 0 0	75,000	W. Feather	77, Bishopsgate-st.
Pilbarra G. F.	1 1/16 1 3/16xd	1 5/16 1 3/16	1 0	2/ May 14,'96	1 0 0	100,000	Pilb, W. A.	38, Coleman-street.
Ramage Syndicate	4⅛ 4⅜	3⅞ 4	1 0	£2& rts F.13 96	1 0 0	50,000	W. Austral	4, Bishopsgate-st.
Royal Oak............	2/9 3/3	1/6 2/	5/	—	0 3 0	200,000	N. Zealand	Dashwood House.
,, Sovereign ...	1⅛ 1⅜	1⅛ 1⅜	1 0	—	1 0 0	60,000	Coolgardie	8, Old Jewry, E.C.
Sherlaws	13/9 14/3	13/ 14/	1 0	—	1 0 0	25,000	,,	Broad Street Avenue
ScottishAustralian	⅜ ⅝	⅜ ⅝	1 0	-/3 Aug., '95	1 10 0	200,000	N. S. Wales	Winchester Ho. E.C.
Scotty's Hauraki...	2/9 3/3	2/9 3/3	5/-	—	0 2 0	400,000	N. Zealand	5, Drapers gardens
South Kalgurli ...	11/16 13/16	⅞ 1	1 0	—	1 0 0	60,000	W. Austral	20, Great Win. St.
Stray Shot & Exel	⅜ 1	⅞ 1	1 0	—	1 10 0	—	Pilb., W A	30, S. Swithin's lane.
Tavaru............	6/6 7/6	4/ 5/	10/	—	0 5 0	90,000	N.Zealand	Dashwood House.
Tokatea of Hauraki	2/6 3/	1/6 2/	5/	—	0 3 0	—	,,	63, New Broad St.
Town Prop. of W A	1 5/16 1 7/16	1⅜ 1½	1 0	—	0 15 0	250,000	W. Austral	28-9, S. Swithin's-ln
True Blue	1 3/16 1 5/16	1⅝ 1⅞	1 0	—	1 0 0	—	,,	Dashwood House.
Victory............. G	1/9 2/3	2/3 2/9	5/	-/2 May, '94	0 5 0	40,000	Queenslnd	32, Gresham-st., E.C
Waihi............... G	6⅜ 6⅞	6⅜ 6⅝	5/	2/- Mar 12, '96	1 0 0	180,000	N. Zealand	11, Abchurch-ln. E.C
,, Silverton	3⅞ 4⅛	3⅞ 4⅛	1 0	—	1 0 0	60,000	,,	23, College Hill
Waitekauri	4⅛ 4⅜	4⅛ 4⅜	1 0	—	1 0 0	136,000	,,	,,
,, Extended ...	8/ 9/	8/ 9/	10/	—	0 10 0	130,000	,,	63, New Broad St.
Waratah...........G	10/ 11/	10/ 11/	10/	—	0 10 0	100,000	Crydn,N Z	43, Threadneedle st
Water Trust Min.	¾ 1	⅜ ⅝	1 0	—	1 0 0	120,000	W. Austral	Broad Street House
W. of Nations.......	1⅛ 1⅜	1 5/16 1 7/16	1 0	—	0 15 0	—	—	77, Bishopsgate-st.
Wentworth .... G	⅜ 1	1 1⅛	1 0	1/- Apl 15 '96	1 0 0	500,000	N. S Wales	4-6. Throgmort. Av.
W. A. Develop's.	1 1/16 1⅛xr	1 1⅛	1 0	rts May 14 '96	1 0 0	50,000	—	49-53, Moorgate court.
W Aust. G.Conces.	1⅜ 2	1⅜ 1⅞	1 0	2/ Sept 27 '95	1 0 0	855,000	W. Austral	33, Old Broad st., EC.
W.A. Ex. & Fin.	3 13/16 3 15/16	3 1/16 3 3/16	1 0	rts Mar. 27 '96	1 0 0	200,000	,,	94,

AUSTRALIAN AND NEW ZEALAND MINES—(*Continued*).

Name.	Closing Price, May 15, 1896	Closing Price, May 8, 1896	Am't. of Share	When last XD and Dividend	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
W. A. General......	3⅛ 3⅛	3⅜ 4	1 0	—	0 14 0	—	W. Austral	28, St. Swithin's-ln.
,, Australian G.F.	9⅛ 9⅜	7⅞ 8⅛	1 0	rts Mar 12 '96	1 0 0	65,000	Coolgardie	28-29, ,,
,, ,, Mines Dvl	1⅛ 2 pm	1⅛ 2pm	1 0	10/ Oct 30, 95	1 0 0	40,000	W. Austral	3, Princes Street
,, Aust. Mining	9/3 9/9	9/3 9/9	5/	7½d.Mar.27'96	0 5 0	320,000	,,	257, Winchester Ho.
,, Aust. Pioneer.	2⅛ 2⅜pm	2⅛ 2⅜pm	1 0	rts Oct 19 95	0 15 0	19,993	,,	139, Cannon-street.
,, ,, Share Corp.	1 1⅛ pm	¾ ⅞ pm	1 0	—	0 5 0	200,000	,,	28, St. Swithin's ln
,, ,, Venture......	2⅛ 2⅜ pm	2⅛ 2⅜pm	1 0	15/ Oct. 30 '95	1 0 0	—	,,	3, Princes Street.
West Boulder	⅞ 1	⅞ 1	—	—	—	—	—	
White Feather ...	2 7/16 2 9/16	2 7/16 2 9/16	1 0	—	1 0 0	60,000	Coolgardie	28 & 29, S. Swithin's ln
Zapopan............G	3/ 4/	4/ 5/	1 0	—	1 0 0	25,000	N W Austra	70, Bishopsgate-street
Zeehan Montana S	—	—	1 0	-/4 Dec. 95	1 0 0	66,000	Tasmania	11, Queen Victoria st
,, ,, ...	—	—	1 0	2½ Dec. 95	0 2 6	12,000	,,	,,

EUROPEAN MINES.

Name.	Closing Price, May 15, 1896	Closing Price, May 8, 1896	Am't. of Share	When last XD and Dividend	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Alamillos L	1⅛ 1⅜	1⅛ 1⅜	£ 2 0	1/9 Apr 15 '96	2 0 0	35,000	Spain	6, Queen-street-place
Consett Ore	7⅛ 7⅜	7⅛ 7⅜	1 0	5/- July 94	1 0 0	55,200	Spain	19, Grey-st. N'castle.
Fortuna L	¾ 1	⅞ 1⅛	2 0	1/- Apr 15 '96	2 0 0	25,000	Spain	,,
Libiola...............C	2¾ 3	2¾ 3 xd	5 0	4/- Apr. 29 '96	5 0 0	50,400	Italy	Dashwood Ho., E.C.
Linares L	5⅜ 5¾	5⅜ 5¾	3 0	9/- Apr 15 '96	3 0 0	14,998	Spain	6, Queen-street-place.
Mason & Barry...C	3 3⅛	3⅛ 3⅜	5 0	2/ May 23 '94	5 0 0	185,172	Portugal	87, Cannon-street.
Pestarena ....G	7/6 8/6	7/6 8/6	3 0	—	3 0 0	67,909	Italy	6-7, Queen-street-pl.
Pontgibaud ......SL	—	—	20 0	11/6 Dec. '94	20 0 0	14,000	Coueron...	,,
Rio Tinto C	21⅛ 21⅜	20¾ 21	10 0	10/- Oct.30 '95	10 0 0	325,000	Spain	30, St. Swithin's-lane
,, (1st Mrt. Bds)	103⅛ 104⅛	103 104	100 0	4% Apl. 1, 96	100 0 0	£3600,000	,, ...	,,
Ripanji ....SQ	—	—	1 0	—	0 19 0	95,000	Servia......	120, Bishopsgt-st. Wn
Tharsis...... ..C Sul	5⅛ 5⅜	6⅜ 6⅝xd	2 0	7/- Apr 29 '96	2 0 0	625,000	Spain	Glasgow.
West Prus Pre.pref	—	—	10 0	3% Mar. 31 '96	10 0 0	1,500	Germany	Walbrook Ho., E.C.
,, Prussian Pre.	—	—	10 0	8% Mar. 31 '96	10 0 0	5,450	,,	,,
,, Prussian Or.	—	—	10 0	4% Mar. 31 '96	10 0 0	14,050	,,	,,
Wohlfahrt L	—	—	1 0	3% Dec. '94	1 0 0	99,634	Prussia ...	17, Victoria-st., S.W
,, ...	—	—	1 0	3% Dec. '94	10 0	9,090		,,

NORTH AMERICAN MINES.

Name.	Closing Price, May 15, 1896	Closing Price, May 8, 1896	Am't. of Share	When last XD and Dividend	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Alaska Mexican...G	1⅛ 1⅜	1⅛ 1⅜xd	$5	4 4-5d. Feb.,96	$5	160,000	Alaska......	30, St. Swithin's-ln
,, TreadwellG	4⅝ 5	5⅛ 5¾xd	$25	1/6 Dec 24, '95	$25	200,000		
Anaconda C	6⅛ 6⅜	6 5/16 6 7/16xd	—	—	—	—	—	
Anglo Mexican ...S	⅛ ⅜	⅛ ⅜	5 0	1/- Apr. 15 96	5 0 0	74,850	,,	23, College Hill;
Arizona (Pref.) Cu	59/3 59/6	56/9 57/	4 0	1/6 Feb. 13,'96	4 0 0	158,920	Arizona...	74, Geo.-st., Edinbor
,, 6½ A Deben.	110⅛	113⅛ 113⅛	100 0	½% Oct.30'95	100 0 0	£135,300	,,	,,
,, 7% B Deben.	99⅛	103 103¼	100 0	7% Oct. 30 '95	100 0 0	£181,300	,,	
De Lamar.........GS	15/- 16/-	15/6 16/6	1 0	1/- Feb. 13 '96	1 0 0	400,000	Idaho......	6, Drapers-gardens.
Dickens CusterGS	-/9 1/3	-/9 1/3	1 0	—	0 19 9	420,000	,,	Winchester Ho. E.C.
Doric..................G	7/6 8/	8/ 8/6	5/	—	0 5 0	125,000	Colorado...	
Elkhorn Priority S	½dis ½pm	½dis ½ pm,	1 0	-/3 June 28 '95	0 10 0	175,007	Montana	6, Draper's-gardens.
Gen. M'g. Assoc, ...	6⅛ 7xd	6⅜ 7⅛	5 10	12/-May 14 '96	5 10 0	27,469	C. Breton	Blomfield House.
Golden Feather G	9/16 11/16	½ ⅝	1 0	—	1 0 0	180,000	California	S. Stephens Ct E.C.
,, Gate ......G	3/ 4/	3/- 4/-	1 0	—	0 19 6	79,600	,,	,,
,, Leaf...... G	1/ 1/6	1/- 1/6	1 0	—	1 0 0	300,259	Montana	6, Draper's Gardens.
Harquahala... .. G	2/6 3/6	2/6 3/6	1 0	-/6Nov.14,'94	1 0 0	300,000	Arizona ...	6, Draper's Gardens.
Holcomb Valley G	/6 1/-	-/6 1/	5/	—	0 5 0	540,000	California	14, Cornhill. E.C.
Jackson Goldfields	/6 1/-	/6 1/-	5 0	—	0 5 0	408,635	,,	11, Poultry, E.C.
La Plata..............S	1/ 1/3	1/ 1/3	5/	1/3 Oct. '82	0 4 6	405,000	Colorado	11, Poultry, E.C.
La Yesca ....GS	2/6 3/6	3/3 3/9	1 0	—	0 19 6	200,000	Mexico ...	20, Bucklersbury, EC
Lyonnaise Mexican	½ ¾	½ ¾	1 0	—	1 0 0	140,000	,,	3, Broad St. Bldgs.
Montana .... GS	7/3 7/9	7/3 7/9	1 0	-/3 Mar 27 '96	0 19 0	657,158	Montana	Gresham House, E.C.
New Guston ......S	⅛ ⅜	⅛ ⅜	1 0	1/- Oct. '92	1 0 0	110,000	Colorado	25a, Old Broad-st.
Palmarejo ......GS	2/3 2/9	2/- 2/6	1 0	—	1 0 0	418,888	Mexico ...	32, Old Jewry, E.C.
PinosAltos(Df)GS	⅛ 3/16	⅛ 3/16	1 0	-/6 Mar.' 90	1 0 0	100,000	,,	110, Cannon-street.
Richmond ...GSL	⅞ 1⅛	⅞ 1⅛	5 0	1/- Dec. 16 '95	5 0 0	54,000	Nevada ...	44, Coleman-street.
St. George	/9 1/3	1/ 2/	5/	—	0 4 9	—	G'o'giaUSA	S. Geo Ho., E'cheap
Sierra Buttes ...G	5/16 7/16	5/16 7/16xd	2 0	-/3 Apr. 29 '96	2 0 0	122,500	California	138, Leadenhall-st.
,, Plumas Eur. G	⅛ ⅜	⅛ ⅜xd	2 0	-/3 Apr. 29 '96	2 0 0	140,265	,,	,,
Springdale.........G	/9 1/-	/10½ 1/1½	$1	-/2 Sep. 28, 9	$1	1,000,000	Colorado	20, Abchurch Lane.
Twin Lake Placers	1 1⅛	1 1⅛	1 0	3/- Feb. '95	1 0 0	26,000	,,	5, Lawrence P. Hl. E

SOUTH AND CENTRAL AMERICAN MINES.

Name.	Closing Price, May 15, 1896	Closing Price, May 8, 1896	Am't. of Share	When last XD and Dividend	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Anglo-Chilian PtN	10⅛ 11	10⅛ 11	10 0	7/0 Feb. 27 '96	10 0 0	35,000	Antofagst.	123, Bishops.-st. W
,, 6% RylstMB	108 110	108 110	100 0	6% Jan 2 '96	100 0 0	£200,000	,,	
Argen.Concessions	1/6 2/	1/6 2/	2/	—	0 2 0	150,000	S. Luis ...	3 & 5, Queen Street.
Caratal............ G	-/6 1/	/6 1/	2/6	—	0 2 6	1,330,000	Venezuela	57, Moorgate-st. E.C
Caylloma.............S	13/16 15/16	13/16 15/16	2 0	1/- Apr. 94	2 0 0	125,000	Peru	52, Leadenhall street
Colon ....G	-/3 /9	-/3 /9	5/	—	0 4 0	200,000	Colombia	5, Copthall-bdgs., E.C
Colorado Nit. ...N	1⅜ 2	1⅜ 2	5 0	2/6Dec.16,'95	5 0 0	32,000	Chili	12, King-st., Liverp'l
Colombian Hy...G	⅜ ⅛	⅜ ⅛	1 0	1/- Jy 26, '95	1 0 0	75,000	Colombia	10, Blomfield-street
Copiapo C	2⅛ 2⅜	2⅛ 2⅜	2 0	2/6 Dec. 16 '95	2 0 0	100,000	Chili	DashwoodHouse, E.C
Darien "A" ......G	8⅛ 8¾	7 7⅛	1 0	—	1 0 0	49,555	Colombia	Manchester.
,, "B".........	9⅛ 9¾	8⅛ 9xn	1 0	x.nwApr 29'96	1 0 0	30,000	,,	,,
Don Pedro.........G	1/ 2/	1/ 1/6	1 0	—	1 0 0	133,102	Brazil	24-5, Devonsh.CsE.C
El Callao ....G	⅛ ⅜	⅛ ⅜	5 0	9½d. Feb. '94	5 0 0	857,600	Venezuela	8, Bishopsgt.-st, Wn
Frontino & B....G	15/16 1 1/16	15/16 1 1/16	1 0	6d. Jan. 16 '94	1 0 0	128,662	Colombia	184, Gresham House
Glenrock ....G	1/9 2/3	1/9 2/3	1 0	—	1 0 0	199,948	Arg. (& I.)	3-5, Queen-street, E.C
Gravel...............G	1/6 2/6	1/6 2/6	1 0	—	1 0 0	100,000	Colombia	10, Blomfield-street
Guadalupe ......GS	3/6 5/	3/6 5/-	1 0	—	1 0 0	120,000	Honduras	1a, Union ct. Old Brd
Julia Taltal ....N	1/16 3/16	1/16 3/16	1 0	—	1 0 0	105,234	Nicaragua	139, Cannon-street.
Lagunas ....N	3⅛ 3⅜	3⅛ 3⅜	5 0	15p.c.Dec.'94	5 0 0	120,000	Tarapaca	3, Gracechurch st.
Lautaro ....N	6⅛ 7⅛	6⅛ 7	5 0	5/- Dec. 30 '95	5 0 0	110,000	Chili	70, ,,
Liverpool ....N	7⅛ 8⅛xd	8⅛ 9⅛	5 0	15/- May 14, 96	5 0 0	22,000	,,	Liverpool.
Loma ....G	/6	-/6	1 0	—	1 0 0	300,000	Colombia	5, Copthall-building.
London Nit.........N	1⅜ 2⅛	1⅜ 2⅛	3 0	3/4¾ Nov. '8[illegible]	5 0 0	10,000	Chili	9, Gracechurch-st
,, Nit.(Pref.)	3⅛ 4⅛	3⅜ 4⅛	6 0	8% Nov. 28'95	6 0 0	22,000	,,	,,
Macate	1/- 1/6	1/ 1/6	2/	—	0 2 0	200,000	Peru	11, Old Broad-st. E.C
New Tamarugal N	⅛ ¼	⅛ ¼	1 10	1s. Dec. '94	1 10 0	130,000	Tarapaca	50, Lime-street, E.C
,, 8 % Cum Pref	⅛ ⅜	⅛ ⅜	1 10	8 p.c. Feb. '95	1 10 0	130,000	,,	,,
,, 6 p.c. Debs ...	85 90	86 90	100 0	6 p.c. Feb. '96	100 0 0	£260,000	,,	,,
Orita.......... ....G	1/ 1/6	1/ 1/6	1 0	1/- April '89	1 0 0	30,000	Colombia	10, Blomfield-street
Ouro Preto ... . G	—	—	1 0	1/- Feb. '96	1 0 0	80,000	Brazil	6, Queen-street-place
Pac. & Jaspampa N	2 2⅛	2 2⅛	5 0	4/- May, '95	5 0 0	72,000	Tarapaca	3, Gracechurch-st.
Phoenix	/9 1/-	-/9 1/-	10/-	—	0 8 0	400,000	S. Luis ...	3 & 5, Queen Street.
Quebrada C	1/16 ⅛	1/16 ⅛	3 0	5% Mar. '92	3 0 0	241,956	Venezuela	8, Nicholas Lane.
Rosario ....N	5 5⅛	5 5⅛	5 0	5/- Feb.13 '96	5 0 0	120,000	Chili	7½ OldBroad-stree
,, (5% Deb.)	104 107	104 107	100 0	5% Apr. 1 '96	100 0 0	£475,000	,,	,,
,, Hu'r'Db Serp	106 109	108 109	100 0	5% Jan. 2 '96	100 0 0	£200,000	,,	,,
St.John del Rey G	21/- 23/-	19/6 20/6	1 0	x.rtsNov 13 '95	1 0 0	327,650	Brazil	Finsby.Ho., Blmf'd st.
San Donato ... ..N	¾ 1⅛	¾ 1⅛	5 0	2/6 May 24 '95	5 0 0	32,000	Chili	12, King-st., Liverp
,, Jorge ....N	5⅛ 6	5⅛ 6	0	5/ Oct. 16 '95	5 0 0	75,000	,,	9, Gracechurch-st.
,, Pablo ....N	2 2⅛	2 2⅛	0	5/-Oct. 30 '95	5 0 0	32,000	,,	
,, Sebastian ....N	1⅛ 1⅜	1⅛ 1⅜	5 0	5/ May 24 '95	5 0 0	29,000	,,	DashwoodHouseEC
Santa Barbara ....G	⅛ 3/16	⅛ 3/16	10/	1/3 Dec.'86	0 10 0	60,000	Brazil......	Liverpool
,, Elena ....N	⅜ ⅝	⅜ ⅝	5 0	5/-Nov.15 '94	5 0 0	22,000	Tarapaca	3, Gracechurch-st.
,, Rita ....N	4⅛ 5⅜	4 4⅛	5 0	10/May 24 '95	5 0 0	20,000	Chili	DashwoodHouse, E.C
Segovia ....G	—	—	5/-	—	0 5 0	120,000	Colombia	6, Copthall-buildings
Tolima "A" ....S	5 6	5 6	5 0	5/-Mar. 12 '96	5 0 0	14,000	,,	18, Finsbury-circus.
,, "B" ....S	4⅛ 5⅛	4⅛ 5⅛	5 0	5/- Mar 12 '96	5 0 0	6,000	,,	,,

Reports from the Mines Continued.

BREMNAES.—The following report has been received from the mine dated Haugesund, May 11: Risvig Mine. In the stope working north from rise in back of 400 north level the lode is nearly 4 feet in width, with one-half quartz. About 2 inches of same close under hanging wall carries copper pyrites and occasionally visible gold. Rising and stoping in back of 300 north level the quartz has increased to 15 inches, and is improving. No visible gold has as yet been seen, but the quartz is of excellent quality, containing galena, and showing by assay over 6 dwts. per ton. In the 200 south level the quartz is in strings and bunches over the whole face of level. The quartz is highly mineralised, and has during the week shown gold by panning. Good progress is being made with the crosscut from 100 feet south level. We shall probably cut the parallel lode within the month. No alteration of note is apparent in the 80 ft. north level.–Fladenoes Mine. The quartz in level driving north is over 3 ft. in width, but is of low grade. A run of quartz on footwall is of improved quality, samples within the last few days having assayed over 5 dwts. gold to the ton. Driving and stoping south from winze, sunk from open cutting, the lode is over 4 feet wide. The quartz contains copper and iron pyrites and a little galena. Driving and stoping north the lode is not so, but is well-defined and regular; the quartz also is more mineralised, and of improved value for gold.—Gapleskog Mine. At present we have only three miners working in this section, but hope to be able to increase the number shortly. The lode holds the same width; the quartz is of the same average good quality as previously reported.

EMERALD (REWARD)—Yalgoo, March 27: Report No. 15. I beg to forward you my report for present week. Point No. 1 main shaft. This shaft has now been sunk to about 30 feet from surface, and I believe will reach water line about the end of this week. I was very much afraid when I located the shaft that the contractors might have met with a hard bar of ground, which would have impeded their progress of sinking, but this so far has not occurred, and the price (35s.) per foot has been a good one. I do not feel disposed to go deeper than the water line until I have fully secured with timber the ground already gone through. The ground to look at is apparently safe for working, but the Government regulations on this point are so stringent that should an accident take place through the falling of a stone it might cost the company a considerable sum for damages. I am now experiencing no little difficulty in obtaining wall plates for this shaft, which require to be 8 feet 6 inches long. I find that such lengths and diameter cannot be obtained in this district. I have just been informed that the timber I require can be got some 16 or 20 miles from here, but owing to the swampy nature of the ground (caused by recent rains) this patch of timber will not be getatable for the next three weeks, at which time I shall get them in as soon as possible, if I can come to terms regarding price, so that the shaft may be fully timbered with a view to sinking below the water line as soon as possible.—Shaft No. 1 (well shaft). Stopes in the back of this level are about 7 inches wide, and is producing good quartz for the mill. The ground is fairly easy for breaking. I have very nearly 20 tons from this point, which I am now having put through the mill, and will inform you next week of the result of this as well as other samples which I shall put through next week.—Point No. 6, Consolidated shaft No. 1. The lode going east is about 2 feet wide but poor. The vein that so recently passed through the lode is from 8 inches to 10 inches wide going north-west, and from 5 to 6 inches wide going south-west, both of which are fairly productive of gold so far as their size is concerned, but not of the same value as when the vein was in conjunction with the main lode. I am having about 25 cwts. of this ore (all raised at present) put through the battery next week as a guide to its value. I am a little disappointed in this end, as when this vein was first intersected my private opinion was that it would have given us a brighter outlook than at present, but this may yet be the case.—Shamrock new lease. The contractors are still driving at the bottom of shaft No. 2 (single handed). The lode in each end is about 14 inches wide, and at times gives a fair panning of gold, but there are times when the panning does not show too well, which proves that the gold is not evenly disseminated throughout the quartz, but that it must occur in patches, and, therefore, the sample cannot be depended upon, but its average value I shall prove next week, as I am having about 20 tons of it delivered to the mill at 4s. 6d. per ton as a mill test. Report No. 16.—I beg to forward you my usual weekly report of the prospective points of this mine.—Point No. 1, shaft No. 1. The men that have been employed sinking shaft (but which is stopped for the present owing to inability to obtain timber) have been engaged at this point driving a crosscut from the main level west at the bottom of this shaft to intersect another vein, which has been met with 4 inches wide, producing a low quality of quartz. One of the above men is now engaged driving on a vein bearing about north east, and which is 6 inches wide, and will yield quartz to the value of about 1 ounce per ton. These two men have driven about 15 feet for the last fortnight. The stopes in the back of this level are being worked by two men. The lode is 7 feet wide and will produce from 15 to 20 dwts. per ton. Although the lode here is small the ground for stoping is fairly good for working, and consequently I can work this ground at a fair profit. We have milled 19 tons raised from the different ends and stopes, which have produced 19½ ounces of gold, the cost incurred in daily wages being about £42; cost of milling, 11s. 6d. per ton. This does not include explosives, &c., which is not great. As soon as I can get the necessary timber for securing the main shaft I shall recommence sinking the same to the 100 feet level (water permitting us), and at which depth I shall, as already stated in my former letters, begin driving a crosscut to intersect the vein series, and I expect to find them equally as good, if not better, than I have already found them down to the water line, and it may be that I may find them at a deeper level merging in one productive lode.—Point No. 3, Shaft No. 1 con. This erratic lode, which appears to bear away at almost every point of the compass, and apparently without any fixed destination, is now bearing about north and south, and is about 18 inches wide, composed chiefly of quartz which, when panned, shows at times fair samples of gold. The lode since it has left the bearing east and west has materially changed its character and its good appearance. I have, therefore, brought back two men to where the veins form a junction, where the lode is from 6 inches to 8 inches wide, and I intend to raise on the back of this vein to ascertain its value and width. I am having a small sample of (say) 2 tons of this put through the mill as soon as practicable, and I think from its appearance it will turn out satisfactorily, although up to date we have not met anything very startling or productive. I consider this point to be a good one for exploration, and I recommend its continuance.—Milling test, Shamrock shaft No. 1. 9½ tons taken from the east and west ends of the bottom level has produced 5 ounces 17 dwts., total retorted gold 12 dwts. 7 grains per ton smelted.—Shamrock No. 2 shaft. The two men employed here have driven for the past month 25 feet 9 inches. The lode in each end is 14 inches wide, composed chiefly of quartz. The hanging wall part of the lode looks of a very congenial nature; the remaining portion does not favourably impress me, being of too glassy an appearance to carry gold. I have had a sample of 16 tons put through the mill from these two points, which produced 3 dwts. 5 grains retorted gold. This low production, unfortunately, only proves what is stated in the last paragraph of my report No. 15, in which I informed you that the gold occurs in patches, and therefore the sample could not be depended upon. Notwithstanding the poor return obtained, I intend continuing this point with the two men now employed, as I consider it deserving of attention on a small scale.—(Signed) James Penberthy manager.

GOLDEN HORSE SHOE.—Copy of Messrs. Bowes Scott and Co's report for fortnight ending March 26: No. 1 shaft, west crosscut. This has been advanced 9 feet, making a total of 42 feet from the shaft. The country rock continues abnormally hard. The water is the same as when last reported upon.—No. 2 shaft. Nothing has been done in this shaft since the last report.—No. 3 shaft. This is situated on the north-east corner of the lease; it was previously sunk to a depth of 69 feet, when diorite was met with. Immediately above the diorite a crosscut has been put in west a distance of 25 feet, which passed through a strong ironstone and quartz lode about 5 inches in width, and carrying good prospects of gold. The men from No. 2 shaft have been engaged sinking a winze on this lode. It is now down 17 feet, and shows very fair prospects. From the bearing of the Ivanhoe lode to the north, there is a strong presumption that we have picked up that lode.

HARQUAHALA (Kalgoorlie Mines).—Report for the month of March: Work has been concentrated chiefly on the main shaft, which has reached a depth of 215 feet. Crosscuts have also been started at 125 feet and 175 feet in depth, to cut the reef, and also to exploit the country both east and west. It was intended to run the lower crosscut at 225 feet, but a small amount of water having been struck at 180 feet, the ground, which is crushed schist, became quite soft, and timber would be necessary in crosscutting at that depth. For hoisting for the present a horse whim has been built and set running. The crosscut between Dodd's and Grenfell's shaft, in which the reef was cut, has been partially cleaned out, and the waste stowed in it removed to the surface. The reef partially indicates the direction for developments from the main shaft, but no driving has been done on it from this level (80 feet), as it can be more conveniently opened out from the main shaft, which also gives the advantage of greater depth. Operations for the present month will be carried on in the crosscuts, and as soon as ore bodies are encountered drifts will be run. Sinking will also be resumed on Harvey's shaft towards the south end of the property, which will be carried down to a depth of 125 feet, and from this crosscuts will be driven. The expenses for the month have been as follows:—Labour, £350; supplies, £350; total £700. A good rainfall of over 4 inches occurred the last of the month, but very little has been caught in the district.—Note by London office. Mr. Raymond cabled on April 27:—"Main shaft. Crosscuts are in 120 feet east and 100 feet west of shaft; nothing in sight; shall continue.—Harvey's shaft. Shall commence crosscutting on the 125 feet level next week."

HARQUAHALA (Arizona).—Copy of report for the month of March:—Cyanide plant. The amount treated and the returns are as follows:—Pulp treated, 2896 tons; average assay of pulp, $4·24 per ton; average assay of tailing, $1·23 per ton; percentage extracted according to assays, 71 per cent.; bullion and gold precipitate, estimated to yield, $4762; miscellaneous revenue, $82; total revenue, $4844. Operating expenses, $4341·95; extraneous expenses, $500·08; total expenses, $4842·03. The plant was shut down for 10 days at the commencement of the month for the purpose of moving the ore-bin and the towers to another and newer portion of the tailings bed. The tailings worked during the month gave very poor results; but experiments are now being carried on, which it is hoped will remove the difficulties. Considerable gold remains in the solutions, which have become fouled by the presence of base metals, thereby causing imperfect precipitation.—Note by London office. The difficulty experienced during the month of March in successfully treating a small portion of the tailing beds necessitated the stoppage of the plant for about 10 days during the month of April, but operations have now been resumed, and the percentage extracted shows a great improvement.

HESPERUS.—The following assays have been received from the managers of the mines at Coolgardie, Messrs. Bowes Scott and Co., Coolgardie Goldfields, April 4. No. 1 shaft, 5 ounces 15 dwts. 1 grain per ton. No. 2 dump, 9 ounces 6 grains per ton. No. 3 shaft, 4 ounces 1 dwt. per ton. No. 2 shaft, 1 ounce 15 dwt. 10 grains per ton.

PAHANG KABANG.—Report for March: Brands No. 1 east. This end has been driven 54 feet, total 84 feet from crosscut. The lode has been fairly well defined during the month, and is now about 1 foot wide but without tin. From the bottom of the winze we have driven 23 feet towards the No. 3 east. Total 46 feet from end of winze. The lode is not so well defined as it has been, and the ground is harder for working. The lode now in the end is about a foot wide, but without tin to value.—Kabang mines. Smyths lode. The rise in the back of the crosscut has been extended 20 feet 6 inches, total 48 feet 6 inches from back of crosscut. We have holed up into the bottom of the old level. This old level has fallen in, and I should judge it to be full for the whole of its length. The rise holed up into the fallen débris, so I have not been able to see any of the old level. Just underneath the bottom of the old level we intersected the lode. It contains a little tin, but is only 6 inches wide. The drive west from the crosscut has been extended 19 feet, total 48 feet. As the leader referred to in my last report had broken up into a few small seams, I stopped this drive, but, seeing a slide in the crosscut, and crossing the mouth of the drive, I thought it possible that the lode might have been heaved so that the crosscut would come between the heave, and not intersect the lode at all. With this view, I have driven a crosscut south for 13 feet and parallel to the main crosscut, and I am pleased to say we have some very good stones of tin in the end, but no proper defined lode. As there is still lode matter in the end, I shall continue the crosscut until I get through the lode matter before I open up westward.—Myah. The men who have been working in the rise at Kabang I have now put in Myah new adit to drive a crosscut north for a short distance, from the end of which I intend sinking a winze if the water will permit. By so driving a crosscut I shall be able to sink the winze about 5 fathoms before intersecting the lode, which I hope to be able to do without having much water to cope with as would be had if the winze were sunk in the lode. The winze will be sunk in the shoot of ore intersected some 15 feet inside the No. 3 winze from the old adit.—Semiliang Fraser's lode. A crosscut has been started towards this lode, but was only driven a few feet. This crosscut I have restarted, and during the month have driven 49 feet, total 52 feet. We have intersected nothing to notice yet, but I hope to get the lode in about a month's time.—Frederick John Rich.

PAMBULA.—The directors having received samples of ore from the mines, have had the same assayed by Messrs. Johnson, Matthey and Co. (Limited) with the following results, as certified by them:—Produce of gold, No. 1, 43 ounces 13 dwts.; No. 2, 32 ounces 19 dwts. 12 grains; No. 3, 47 ounces 14 dwts. per ton of 2240 lbs. of mineral.

PAHANG CORPORATION.—Report for March: Pollock's. There is little change in the size of the lode in the stopes worked from the intermediate level. The yield for the month here was 280 tons, assaying 5½ per cent.—Winze B, No. 1 drive was sunk 24 feet, total 67 feet. Lode large, carrying a little tin near the hanging-wall. By the end of April I expect to hole through to the No. 2 drive. The No. 2 below adit was advanced 30 feet, total from crosscourse 370 feet. Lode small. No. 2 crosscut north was driven 21 feet in clean country. Winze A was sunk 20 feet, total 49 feet, and is expected daily to connect with the rise from No. 3. The No. 3 below adit was advanced 12 feet, total from rise 86 feet. Ground very hard. Lode small. The large body of water struck in No. 2 drive appears to be draining the water from other parts of the mine, and we have now little more on the whole than before we met with it. Good progress is being made with erection of new pumping engine.—Campbell's. Drive west on lode advanced 28 feet, total from crosscut 70 feet. Lode small, carrying a little mineral but no tin.—Nicholson, No. 1 drive east advanced 19 feet, total 818 feet. Lode 3 feet wide. The overband stopes from this level returned 220 tons of 7 per cent. ore. Crosscut from Bell's lode advanced 21 feet, total 503 feet, ground hard, brown and grey slate.—Willinks. No. 2 section adit east was advanced 8 feet, total from No. 1 crosscut north 140 feet. Lode 1 foot 6 inches wide, carrying rich ore. This is the same vein as met with in No. 2 crosscut north. Crosscut south advanced 27 feet, total 34 feet, without meeting with any lode formation. The stopes returned 189 tons of 4 per cent. ore.—Teapues. Adit east advanced 25 feet, total from crosscut 98 feet. Lode more than width of the drive. Drive west advanced 25 feet, total from crosscut.—147 feet lode small and poor. The air shaft from surface is being continued, and has been sunk 8 feet below the level. The stopes in this mine returned 375 tons of 3 per cent. stone; the lode where stoping is taking place varies from 6 to 12 feet wide.—Jeram Batang main lode. Adit level west advanced 20 feet, total 474 feet from crosscut. Lode 3 feet wide, of good appearance, showing patches of rich ore.—Winze A east sunk 17 feet, total 26 feet. The winze is only carrying part of the lode with it, which contains a little tin.—No. 1 above adit west, crosscut south, driven 6 feet, total 30 feet. This crosscut having picked up the lode which was displaced at this point by a crosscourse, driving was started on the lode, distance driven 3 feet. Lode very promising. In the western stopes lode will average 4 to 6 feet wide, and in the eastern stopes 9 feet wide, and assays from 5 to 7 per cent.—No. 2 above adit west advanced 19 feet, total 498 feet from crosscut. Country hard grey slate. Lode in face small.—Shaft. Crosscut south advanced 21 feet from shaft, country hard slate, bad for blasting. The shaft has now been timbered 56 feet from surface, all with the best hard wood. The stopes in this winze returned 850 tons of ore, assaying 5½ per cent.

SHEBA.—The following report has been received from the general manager for the month of March:—Mine. Levels 1 to 6. No work has been done on these levels.—Level No. 7. The low level tunnel has been extended on the hanging wall a further 46 feet; this leaves about 190 feet to be driven to connect with the Good Hope winze in the Oriental block.—No. 8 level. Stoping only on this level.—No. 9 level. The west drive advanced 39 feet. No. 3 north crosscut extends 23 feet.—No. 10 level. The west drive advanced 29 feet 6 inches. No. 1 north crosscut made 10 feet, No. 2 north crosscut made 5 feet. An intermediate winze "F" was commenced and sunk 45 feet to connect with No. 10 level.—No. 11 level. The west drive was extended 23 feet. The east drive was extended 4 feet. No. 1 north crosscut located, and driven 7 feet.—No. 13 level. West drive started and driven 20 feet. From No. 17 winze 10 feet was driven to connect with the west drive.—Other blocks. No work has been done on these, beyond prospecting.—Incline shafts. The east incline was sunk a further 6 feet, and the west incline 34 feet 6 inches, bringing both to No. 12 level.—Stopes. During the month the ore sent to the mill has been taken from the Nos. 8 and 9 level stopes. The ore crushed during the month shows a further improvement, the average being over 3 ounces per ton over the plates. The gold in the ore on the north side of the No. 8 level underhand stope seems to be nearly all contained in a band which is immensely rich, running across (horizontally) the stope full 60 feet from the hanging wall, and it is still making back north, and also extending east, running behind a body of low grade rock, that reached nearly the whole length of the stope from east to west at 30 feet from the hanging wall. This poor ground is now being broken, and goes to the mill with the richer ore. This stope has improved wonderfully of late; we having struck ore on the hanging wall, in the middle of the stope, and north towards the footwall. The western stope has been beaten away to No. 9. It is gradually becoming narrower, but may possibly open up again at No. 8 level; it is still rich. The intermediate winze sunk in middle of stope to No. 1 crosscut on No. 9 level for the purpose of beating it away more towards the north, was started in good ore, but it soon cut out. A winze will now be sunk from No. 9 to 10 to prove the body of ore, and admit of stoping economically; it will connect with No. 1 crosscut on No. 11 level.—Development. Good ore has been struck on No. 13 level, whilst driving from the east to the west incline. Nos. 10, 11, and 12 level are being driven east and west. On No. 10 we are crosscutting north in two places; the No. 1 crosscut to intersect the winze now being sunk from No. 9 between the east and west inclines; and No. 2 crosscut to intersect the winze sunk to No. 10 level west of the west incline shaft. On No. 11 we are crosscutting between the east and west incline shaft, the first 7 feet being in very good ore.—Low level tunnel. Owing to the scarcity of water we were compelled to discontinue the driving of the tunnel by air drills, hand labour being substituted.—Main shaft. An ore bin is in course of erection at the collar of this shaft.—Rock drill plant. This is now ready for work as soon as the motor arrives to be placed.

UNITED GOLD REEFS.—Extract from manager's report for the current month:—There are four shafts, the air shaft being nearest the southern boundary, about 50 feet from it, this shaft is down 110 feet. At the 60 feet level a drive is made on the vein home to the boundary; at the 30 feet a level has been driven on the lode for about 280 feet, passing the main and Nos. 1 and 2 shafts to about 107 feet beyond the shaft No. 2, all the way through vein matrix. At the 110 feet a level is run north on the lode, and is in communication with the main shaft; as yet there has not been any drift to the southernly, the shaft at this point cut through the footwall which is regular and well defined. The main shaft is about 146 feet deep; two crosscuts have been driven from this shaft, one from the 60 feet level, where it cut into the hanging wall 15 feet from the shaft, the other at the 110 feet level, where the mineral formation is about 30 feet wide. Shafts Nos. 1 and 2 are only down about 30 feet; these have yielded very good results, but being so near the surface there is somewhat more mullock than in the lower drifts. The lode so far must be considered a masterly one, of a conglomerate or aregiaceous character, the cementing ingredient being argillaceous and ferruginous matter; there forming bands running at all angles through the mineral belt, varying in width from a mere thread to an inch or more, whilst here and there veins of a decomposed matrix of dark colour of a graphitic nature is met with, all of which is more or less stained with the oxide of iron; in fact, pieces of the quartz show the clearage wall saturated with iron. The dip is about 56° east, with a strike of about 15° east of north.

ASSOCIATED GOLD MINES OF WEST AUSTRALIA.—Abstract of manager's report:—Australia (Block 38e). Drive north at 80 feet level extended to total 32 feet 6 inches, carrying part of reef and intend crosscutting.—Adelaide (Block 103e), shaft No. 4. Crosscuts east and west sinking to each crosscut. West crosscut extended to total 31 feet; no change; ground composed of red schist. East crosscut extended to total 33 feet. Hard bar of ground cut through and test lode intersected, appearance characteristic of Lake View line of lode.—Australia east (Block 72e), Shaft No. 2. Crosscut driven to total 29 feet. Shaft No. 6 sunk to total 26 feet. 10 feet timbered, ground both in crosscut and shaft excessively hard.—Lake View Extended (Block 101e). Shaft No. 3. Crosscuts east and west continued. West crosscut extended to total of 45 feet. East crosscut extended to total of 61 feet. No change.—Shaft No. 4. Crosscuts east and west continued. West crosscut extended to total of 29 feet. East crosscut extended to total of 28 feet. Lode formation not yet cut through, but 60 feet opened up; 20 feet east of shaft driving on lode south started, fair gold obtained.—Shaft No. 5. Drives on crosscourse reefs extended. West drive to total of 50 feet. East drive to total of 65 feet, where quartz is broken up, but lode material keeping the course. West drive carries iron and quartz formation 1 foot in width.—(Signed) Wm. Oats.

GOLD FIELDS OF TIERRA DEL FUEGO.—Extract from progress report received from Mr. Hyacinthe Roquette, the company's manager in Mozambique: Since my last there is little to report, except that I am pushing forward prospecting work as rapidly as the unpropitious season, and deficient food supply, will admit. I have been offered for flotation or sale a block of 30 claims Chua, near our 20 claims, which I am going to inspect, but if the property is not phenomenally good it is undesirable to make an unnecessary speculative purchase of other people's ground. Last week the resident magistrate and native commissioner of Umtali arrived here to settle the question of a temporary boundary. Inhamcarara river forms part of the boundary line adopted, on which a piece of ground, which I have already prospected, and up to now considered as belonging to the Chartered Company, has fortunately been decided to be within the Mozambique boundary, and belongs to us.

BROKEN HILL PROPRIETARY.—The manager reports that the available yield for the week ending May 14 was 7903 tons of ore, yielding 459 tons of lead, containing 145,485 ounces silver. The price of the shares in Melbourne is £2 10s. buyers

BONNIE DUNDEE.—Mine manager's report for fortnight ending March 21: No. 3 shaft. Underlie on Victory reef. No. 1 level north driven 21 feet, or 312 feet from shaft. Another make of reef has come in 15 inches thick, and the reef we passed through last fortnight has increased in length. No. 1 winze sunk 11 feet. Reef 3 feet with patches of mineral. Have started levels north and south as intermediate. Intermediate level north driven 11 feet. Reef 15 inches on hanging wall, and 6 inches in centre of level.—Intermediate level south driven 14 feet. Reef in face 12 inches, and 8 feet on east side of poor quality.—No. 2 level south driven 21 feet. Reef for 10 feet back will average 15 inches of 1½ ounce stone. Stopes have very much improved. Reef 18 inches of 1½ ounce quality.—No. 1 level north. Stopes are yielding good ore. For 70 feet should be worth 35 dwts per ton.

BRILLIANT BLOCK.—Mine manager's report for fortnight ending March 18: Underlie shaft sunk 9 feet, or 90 feet below 8 level plat. Formation 11 feet wide, with patches of quartz through hanging wall. No. 8 level east driven 12 feet, or total length 212 feet from shaft. Reef 3 feet of (say) 10 dwts. stone. Stopes 1 to 4 feet, 7 to 10 dwts. No. 7 level west driven 15 feet. A small leader on the hanging wall has pinched out. No. 7 level east driven 8 feet, or 470 feet from shaft. Reef in face 3 feet 6 inches of 10 to 14 dwts. stone. Stopes 5 inches to 6 feet of 10 to 15 dwts. No. 6 level west stopes 6 inches to 2 feet of reef, 8 to 10 dwts.—No. 6 level east. No. 2 winze sunk a total of 37 feet. Reef in bottom 18 inches of 15 dwts. stone. In one stope the reef is 1 foot wide, worth 1 ounce per ton.—No. 5 level west. The two stopes carry a reef 1 to 2 feet thick of 7 to 10 dwts.—No. 4 level east. Stope on flat reef has 6 inches to 2 feet of stone (say) 15 dwts. quartz.—No. 3 level west. Stope has 1 to 2 feet of reef of 8 to 10 dwts. stone.—New 40 stamp mill. Work has progressed satisfactorily, and is now almost completed.

CROWN REEF.—Report on the working operations of the company for March, which shows a total profit of £18,049 13s. 9d.: Mine. Number of feet driven, sunk, and risen, exclusive of stopes, 866 feet; quartz mined, 17,416 tons; quartz on hand, at surface, March 31, 7978 tons.—Mill. Number of days (24 hours) working 120 stamps, 29 16-24 days; tons crushed, 17,506 tons; tons crushed per stamp, per 24 hours, 4·917 tons; yielded in smelted gold, 6705 ounces 11 dwts.; yield per ton, 7 dwts. 15·860 grains.—Cyanide works. Tons sands and concentrates treated, 13,303 tons; yield in smelted gold, 4597 ounces 11 dwts.; yield per ton, 6 dwts. 21·889 grains; working cost per ton, 2s. 6·504d.; royalty cost per ton, 1s. 4·87d.; total cost per ton, 3s. 11·374d.—Expenditure and revenue. Expenditure, 120 stamp mill and cyanide works, 17,506 tons milled. Mining expenses, cost £13,848 10s., equal cost per ton 14s. 8·147; transport expenses, cost £175 7s. 1d., equal cost per ton 2·004d.; milling expenses, cost £2245 13s. 5d., equal cost per ton 2s. 6·787d.; cyanide expenses, cost £2625 18s. 8d., equal cost per ton 3s.; general charges, cost £1706 2s. 2d., equal cost per ton 1s. 11·390d; mine development, cost £1142 12s., equal cost per ton 1s. 3·664d.; total cost £20,744 3s. 6d., total equal cost per ton £1 3s. 8·392d.; construction of mechanical haulage, cost £1524 1s. 7d., equal cost per ton 1s. 8·894d.; total cost £22,268 5s. 1d, total equal cost per ton £1 5s. 5·286d.; profit for month, cost £18,049 13s. 9d., equal cost per ton £1 0s. 7·455d.; total cost £40,317 18s. 10d., total equal cost per ton £2 6s. 0·741d.—Revenue. Gold accounts. 6705·55 ounces from 120 stamp mill, value £23,311 1s., equal value per ton £1 6s. 7·584d.; 4597·55 ounces from 120 stamp cyanide works, value £14,821 13s. 6d., equal value per ton 16s. 11·199d.; slags sold, value £2185 4s. 4d., equal value per ton 2s. 5·259d.; total, 11,303·10 ounces; total value £40,317 18s. 10d., total equal value per ton £2 6s. 0·741d.—General. The following are the particulars of the lineal development work done for the month:—5th level. Driving on main reef leader east and west 32 feet.—6th level. Driving on south reef east and west, 150 feet; driving on main reef leader east and west, 29 feet; sinking winzes, 32 feet 6 inches; crosscutting, 139 feet.—7th level. Driving on south reef east and west, 63 feet; driving on main reef leader east and west, 83 feet; sinking winzes, 197 feet 6 inches; crosscutting, 55 feet.—8th level. Sinking incline shaft, 21 feet; sinking No. 1 shaft, 33 feet; crosscutting, 32 feet; total, 286 feet. The tonnage of ore exposed by the above work, amounts to 14,477 tons. The 120 stamp mill and cyanide works ran with their accustomed regularity during the past month. From the foregoing statistics it will be seen that the company's profit for March was abnormally high when compared with previous months. This is chiefly due to the additional revenue derived from slags sold. It is with regret that your directors have to notify you of the resignation of the general manager, Mr. G. E. Webber, who has for two years and nine months so ably conducted the mining operations of the company, and who, through judicious working, has been the means of raising your mine to its present state of prosperity. Mr. Webber left the company's service on March 31, but will continue to supervise the works from time to time until your board has concluded other arrangements regarding the management. A dividend (No. 16) of 50 per cent. has been declared by the board for the half-year ending March 31, being at the rate of 100 per cent. per annum. The transfer books were closed from April 1 to April 7, inclusive. The dividend will be payable from this office on May 11 to shareholders registered in the company's books on April 1. Holders of share warrants to bearer are informed that they will receive payment of dividend (10s. per share) on presentation of coupon No. 4, either at the London office of the company, 120, Bishopsgate-street Within, E.C., or at the Banque de Paris et des Pays Bas, 3 Rue d'Antin, Paris. Coupons must be left four clear days for examination at either of the offices abovementioned, and may be presented any day on or after Monday, June 1. Notice is hereby given, that the eighth annual ordinary general meeting of shareholders will be held in the board room of City Chambers, Johannesburg, on Tuesday, May 26, at 11 a.m.—Business. To receive the balance-sheet, statement of revenue and expenditure reports, &c., for the year ending March 31, 1896, to appoint two directors in the place of Messrs. W. H. Rogers and J. W. S. Langerman, who retire, but are eligible for re election; to elect two auditors in the place of Messrs. D. M. Kisch and F. J. Moller, who retire, but are eligible for re-election, and for fixing their remuneration for the past year, also for general business. The transfer books will be closed from May 20 to 26 inclusive. Holders of share warrants to bearer wishing to be represented at the meeting must deposit their shares at the places and within the times following:—(a) At the head office of the company in Johannesburg at least 24 hours before the time appointed for the holding of the meeting. (b) At the London transfer office of the company in London at 120, Bishopsgate-street Within, E.C., at least 30 days before the date appointed for the holding of the meeting. (c) At the Paris agency of the company at the Banque de Paris et des Pays Bas, 3, Rue d'Antin, Paris, at least 30 days before the date appointed for the holding of the meeting.

DAY DAWN BLOCK.—Mine manager's report for fortnight ending March 21:—No. 2 shaft underlie. Sunk 13 feet, or 119 feet from No. 16 plat, and 2276 feet from surface. Reef on sink 4 feet, worth (say) 1 ounce per ton.—No. 16 level east. Hanging wall driven 9 feet, or 147 feet from shaft. Reef 3 feet, 17 dwts. Footwall. Total from shaft 158 feet. Reef 2 feet, 16 dwts. Reef in stopes 5 to 6 feet, worth 17 dwts. per ton. Have started a crosscut to intersect what I believe to be the Talisman reef, met with near No. 1 pass. The reef is 2 feet, and should be met with in 10 or 12 feet of driving. Its quality is about 18 dwts.—No. 15 level east. Reef in Day Dawn stopes 18 inches, in Talisman stopes 10 inches, worth (say) 1 ounce per ton.—No. 15 level west. Reef in stopes varies from 2 to 4 feet, worth from 5 to 15 dwts. per ton.—No. 14 level west. Total length 534 feet. In the stopes the reef averages 18 inches, of 1 ounce per ton.—No. 14 level east, intermediate. Reef 3 feet, worth 22 dwts. per ton.—No. 13 level west. Total length 397 feet. Reef 2 feet, 15 dwts. Stopes 18 inches, 17 dwts.—No. 10 level west. Reef on stopes 2 feet, 15 dwts.—No. 3 shaft, underlie. Total depth of underlie 1017 feet. Formation 4 feet wide.

EAGLEHAWK CONSOLIDATED.—The following fortnightly report has been taken from the mine, dated Maldon, March 30: I beg to report that the shaft has been sunk a further depth of 30 feet for the fortnight, total from the plat 126 feet, or 1126 from the surface. This completes the first 100 feet of the new sinking. I will now start to put in the penthouse for the next 100 feet, and also cut the plat and timber the 100 feet that has just been sunk.

FERREIRA.—Report on the working operations of the company for the quarter ending March 31: Expenditure. Mining expenses, £23,401 3s. 5d.; development redemption 29,054 tons at 5s., £7266—£30,667 3s. 5d.; transport expenses, £608 17s. 8d.; reduction expenses, £8364 3s. 9d.; total, £39,640 4s. 10d.—Revenue. Gold account, £83,876 5s. 11d.; cyanide works account, £13,577 11s 11d.; concentrates sold, £17,215 8s. 5d.; total, £114,669 6s. 3d.; profit for quarter, £75,029 1s. 5d.; general charges £5203 17s. 5d., maintenance £3897 12s. 11d., distributed over mining, transport, and reduction accounts; mine development account, £5690 6s. 5d.—Capital expenditure. Machinery and plant, £12,194 19s.; buildings, £3082 2s. 6d.; permanent works, £3046 5s. 9d.; total, £18,323 7s. 3d. — Summary of expenditure and revenue. Mining expenses, 11s. 00·9d. per ton; transport expenses, 5·02d. per ton; reduction expenses, 5s. 9·06d. per ton; development redemption, 5s. per ton; total, 22s. 2·17d. per ton. — Mine. No. 1 main shaft has been sunk 74 feet, total depth 1236 feet.—South reef. The 920 feet level has been extended 57½ feet. Average width of reef is 2 feet 5·18 inches, and its average assay value is 3 ounces 12 dwts. The 1120 feet level has been extended 230 feet. The average width of reef is 2 feet 1·77 inches, and its average assay value is 3 ounces 10·98 dwts.—Main Reef leader. The 120 feet level has been extended 5 feet, average width 5·89 inches. Average assay value 3 ounces 7·2 dwts. The 820 feet level has been driven 9½ feet, average width 1 foot 4·88 inches. Average assay value 1 ounce 5·35 dwts. The 920 level has been driven 20 feet, average width 1 foot 6·76 inches. Average assay value 1 ounce 4·56 dwts. Two winzes are being sunk in south reef and one rise is being risen. Rock cut during the quarter, 925½ feet.—Mill. Ore crushed, 29,064 tons; ore crushed per head per day, 4·18 tons; bar gold extracted, 23,673·73 ounces; yield per ton, 16·29 dwts.; concentrates caught, 765 tons; assay value of concentrates, 6 ounces 9 dwts. 14 grains.—Cyanide works. Tailings treated, 14,615 tons; bullion produced, 6024·8 ounces.—Sorting. Waste rock picked out during the quarter, 13,458 tons.

GEORGE GOCH AMALGAMATED.—Report for the month of March:—Mine. Number of feet driven, sunk, and risen, 784 feet 6 inches; quartz mined, 10,762 tons; less waste rock discarded, 2549 tons; quartz mined and milled, 8213 tons; quartz developed in excess of that mined, 11,769 tons.—Mill. Number of days working (100 stamps) 20·45; number of tons crushed, 8213; yield in smelted gold, 2053 ounces 8 dwts.; yield per ton, 5 dwts.—Cyanide works. Number of tons of tailings treated, 5670; yield in smelted gold, 1329 ounces 15 dwts.; yield per ton, 4·69 dwts.—Expenditure and revenue. Working expenditure. To mining (including maintenance), £4851 1s. 5d.; to milling (including maintenance), £1465 7s. 1d.; to general charges, £632 6s. 8d.; to mine development redemption, £1922 14s.; to cyanide working, £1192 0s. 1d.; profit for month, £1738 14s.; total, 11,502 3s. 3d.—Revenue. By gold accounts. 2053 ounces 8 dwts. from 100 stamp mill, at 73s. per ounce, £7494 18s. 3d.; by 1329 ounces 15 dwts. from cyanide works, at 60s. per ounce, £3989 5s.; by sundry revenue, £18; total £11,502 3s. 3d. —Working cost. Mining (including maintenance), 11s. 0·99d. per ton; milling (including maintenance), 3s. 6·82d. per ton; general charges, 1s. 6·47d. per ton; mine development redemption, 4s. 8·18d. per ton; total, £1 0s. 10·46d.: value of yield, 18s. 3·01d. per ton; balance, 2s. 7·45d. per ton.—Cyanide working (including maintenance), 4s. 2·45d. per ton; value of yield, 14s. 0·84d. per ton; balance, 9s. 10·39d.—Expenditure on capital account. Mine development, £3562 10s. 3d.; less redemption, £1922 14s.= £1639 16s. 3d.; machinery and plant, £786 16s. 9d.; permanent works, £1928 5s. 5d.; buildings, £459 13s. 5d.; live stock, £100 10s.; reservoirs and dams, £551 19s. 5d.; furniture account, £226 14s. 6d.; total, £5693 15s. 9d. The No. 2 battery (Metropolitan company's works) recommenced operations on March 16 with 40 stamps. An accident to the battery engine at No. 1 battery (George Goch Company's works) stopped operations at that battery for three full days, which accounts for the short average run.

MOUNT ROWE CONSOLIDATED.—The manager, under date April 7, reports as follows: Regina north. The north drive has been extended 6 feet, total length of drive 28 feet. The south drive has been extended 8 feet 6 inches, making a total length of 24 feet. The stone improves as the reef is driven upon. The width of the reef in the north drive is 5 feet 4 inches, and a lot of the stone shows visible gold. Any of this stone gives from a 2 to 3 ounce prospect by panning and dollying. The present width of the reef in the south drive is 35 inches. This stone is just the same as the stone in the north drive, and every bit as rich. The reef is very solid in both drives, and the walls are well defined. Now the railway is here I expect that the price of mining necessities will very shortly become a great deal cheaper, and without the delay which there has previously been. The condenser is not yet erected, as we have had a difficulty in procuring bricks to build in the boilers. The late rains have increased the supply of water in all the shafts.—Hubert Akers, secretary.

MOSMAN.—Mine manager's report for the fortnight ending March 28; Wyndham Mine, shaft. No sinking during fortnight. Men engaged strengthening the portion passed through the slide. Better progress will now be made.—No. 8 level south stopes. The reef is now 10 inches thick of (say) 25 dwts. stone. This is not quite so good as last reported.—No. 13 level north. A reef showing a little gold is being worked in the end of the level, and a trial crushing will be made to prove its quality.—Peabody Mine. No. 3 level north. Driven 17 feet, or a total length from shaft of 158 feet. The formation is 3 feet wide, and looks healthy, with a leader running through it.—No. 3 level south. The crosscut has been driven a total length of 40 feet. Another leader has been met with, showing gold freely. It is 3 inches thick, and lies almost flat with formation.

MILL'S DAY DAWN.—Mine manager's report for fortnight ending March 21: Underlie shaft sunk 12 feet, or 127 feet below the No. 10 plat. The shaft is altogether in footwall country, which is grey granite with bars of diorite running through it. No. 10 level extended 12 feet, total length 290 feet. Stope over level 2 feet of good quality stone. There is 3 feet of formation, with several leaders of white stone.—No. 9 level west. Footwall winze sunk a total of 99 feet on 2 feet of medium stone. The stopes over level carry 2 feet 6 inches of good quality. Hanging wall stopes average 18 inches of rather poor quality. All the work above this level is progressing favourably.

NEW RIETFONTEIN ESTATE.—The Johannesburg Consolidated Investment Company announce receipt of a report from the above company containing the following:—Manager's report for week ending April 16 states that mine development amounted to 128 feet. Mill crushed 1191 tons of ore, and at the cyanide works 805 tons of tailings were treated. Assays of samples treated during the week average 14 dwts. 14 grains, and the average value of tailings was 4 dwts. 6 grains per ton. During the week the manager recovered the middle reef in the second level west from No. 3 shaft, measuring over 6 inches, and assaying 16½ ounces per ton. A further discovery was made later on, the middle reef in No. 2 mine, 1st level being picked up about 400 feet from shaft 8 inches wide, and giving high panning results. The importance of these finds is considerable, proving, as they do, that although the reef is disturbed it is permanent, and in many places of high grade. March operations resulted in an improvement in the returns of gold, and there is every reason to believe the improvements will be continued. Complete printed reports, plans, and statements of accounts are going forward to London by this mail.

NEW HEIDELBURG ROODEPORT.—The Johannesburg Consolidated Investment Company announce receipt of a report from the above company, containing the following:—During the month of March 332 feet were driven and sunk on this company's property, and the development was equal to 1466 tons of ore, this small quantity being due to the fact that comparatively little driving was on reef matter. Panning of samples were fairly satisfactory. In the main shaft, reef widened out during the month, and is now 20 inches of well-defined, splendid body of reef. Machinery has continued to arrive, and surface works are going ahead rapidly. Development during week ending April 17 shows good progress—being 178 feet—in spite of the hardness of the rock. Reef in the main shaft continues to be highly mineralized, and shows a fair quantity of free gold. In second level, going south, reef has been reached south of the diorite dyke, and is looking well; and in other parts of the mine the ore body being exposed is of a satisfactory nature. Native labour is now plentiful, and all works are being pushed forward as rapidly as possible.

NEW QUEEN.—The following fortnightly report has been received from the mine, dated Charters Towers, March 27:—No. 4 south level (footwall). Stoping has been continued both over and under this level, the reef varying from 1 to 7 inches. The ground is hard, and at times bad for breaking.—No. 2 formation. The level from the straight shaft is in a very hard country. The formation is very small—6 inches wide, the reef being very irregular from 1 to 5 inches. Stoping has been carried on on both sides of the winze. On the north side of the winze the reef is very irregular; there is a lot of blank ground here, and the reef does not average more than 3 inches. The south side of the winze has improved during the past week, and the reef at present averages about 8 inches.—No 4 formation, No. 3 north level. Stoping is being carried on over this level. The formation is large and in places, and the reef varying in size from 3 to 9 inches.—Vertical shaft. The skidding of the vertical shaft was completed on Monday evening, the 16th. A depth of 276 feet was fixed in Nos. 1 and 2 chambers, and everything is working satisfactorily. All the stuff is now being hauled from No. 5 formation direct to the surface by the winding engine. The work of opening up No. 5 formation is being carried on as expeditiously as possible. Two levels are now being driven east and west. In the western level the reef will average about 15 inches; it looks rather white, and is carrying very little mineral. In the eastern level the reef is split into two veins, one on the hanging wall averaging 6 inches and the one on the footwall averaging 9 inches. The two veins carry more mineral than the western level.—Quantity of quartz raised for the fortnight. No. 4 south level footwall, 108 trucks; No 2 formation, 102 trucks; No. 4 formation, 74 trucks; No. 5 formation, 57 trucks.

PRINCESS ESTATE.—The following report on the company's operations for the month of March, is published by the directors for the information of shareholders:—Mine. Number of feet sunk and driven, 326 feet.—Mill. Number of days (24 hours) working 20 stamps, 30¼ days; ore milled, 2771 tons; yield in smelted gold, 1126·29 ounces; average per ton, 8·13 dwts.—Cyanide works. Tons of tailings treated, 2507 tons; yield (in bullion of 60s. value), 411·5 ounces.—Revenue and expenditure. Expenditure. Mining, hauling, and pumping, £2509 10s. 10d.; sorting and tramming, £318 8s. 3d.; reduction, £622 3s. 4d.; general charges at mines and head office, £449 9s. 1d.; mine development redemption on 2771 tons at 6s. 6d., £900 11s. 6d.; working expenses at cyanide works, £562 15s. 8d.; total, £5357 18s. 8d.; balance, profit for month, £293 16s. 10d.; total, £5651 16s. 6d.—Revenue. Mill gold, £4167 5s. 6d.; cyanide gold, 411·5 ounces at 60s., £1234 10s.; water rent and licenses, £250; total, £5651 15s. 6d.—N.B. The revenue from water rents and licenses varying very much in each month, the average of the annual receipts under this heading has been adopted in this report.—Working costs per ton.—Mining, hauling, and pumping, on 2771 tons, 18s. 1·4d.; sorting and tramming, on 2771 tons, 2s. 3·5d.; reduction, on 2771 tons, 4s. 5·9d; general charges, on 2771 tons, 3s. 2·5d.; mine development redemption, on 2771 tons, 6s. 6d.; cyanide works (on tonnage treated, 4s. 5·8d.), on 2771 tons, ½s. 0·7d.: total, 38s. 8d.—Total expenditure. Working expenses, £5357 18s. 8d.; on capital account, for development, permanent works, £1642 17s. 3d.; machinery and plant, buildings, &c., £2183 17s. 2d.; total, £9184 13s. 1d.; less amount redeemed from mine development, on 2771 tons milled, at 6s. 6d., £900 11s. 6d.; total, £8284 1s. 7d. The scarcity of native labour at this mine has been even more acute during March than during the preceding month, but preparations have been made to alleviate this, and during the second half of April an improvement in the labour supply of this company is confidently anticipated.

ROYAL SOVEREIGN GOLD.—The manager reports for week ending April 4; Western crosscut has been driven 2 feet, total 124 feet. North drive has been driven 8 feet 6 inches, total 11 feet 6 inches. The stone in this drive is looking well, I intend to push this drive on as fast as I can. The eastern crosscut has been driven 11 feet 6 inches, making a total of 133 feet 6 inches. There is a nice change in the country in this crosscut, and I hope to report good news shortly. The south drive has been driven 6 feet 6 inches, making a total of 13 feet. The vein of stone is very small at present, but I think it will widen as driving is continued.

ROTHERY BLOCK.—Extract from manager's report, dated April 17: I regret that little actual sinking has been done on Rothery this week as we have been busy timbering. The west shaft has now been securely timbered and lagged for 60 feet, ladder ways put down, and sunk another 6 feet 6 inches. Total 68 feet 6 inches. We are getting a little water now. I hope the ground will now be solid enough to dispense with timbering. In the east shafts sets have been placed in the soft ground, and another day or two should suffice to make all secure. This shaft is making water fast, and a pump will become necessary.

TALISMAN.—Extract from the report of Mr. Trehey, the mine manager, dated March 23:—"I am pleased to inform you that I have made a new discovery in Talisman West; the location is six chains south of open cut (that is to say, the most southerly open cut as shown on plan); the reef where exposed shows a width of 4 feet, and sample taken from the reef has given a return of 4½ to 5 ounces per ton. I have traced the chute of gold for a distance of five chains along the line of reef, and the strike of the reef is about 20° west of north. The reef is well mineralised, and has every appearance of being permanent in depth; the outcrop of the reef can be traced up to extended boundary. I have one shaft down 12 feet; the reef improves by sinking. I consider this find of great importance to the company. We shall have the battery site completed in a few days."

TRUE BLUE (Hannan's).—Mine manager's report for the fortnight ending March 30:—No. 1 main shaft. The north-east crosscut has been extended 24 feet, total distance driven from shaft 128 feet. At a distance of 110 feet from the shaft a small formation carrying a leader 4 inches in thickness was passed through, which in the panning gave poor results. The south-west crosscut has been extended a further distance of 54 feet, total distance from shaft 184 feet, during the last 40 feet of driving three small leaders were cut through, which were found poor at the point of intersection.—Intermediate level. The winze has been timbered and ladder road placed in position.

WALTER HODGSON.—The directors have received a report from the resident director, stating that the work at the mine is proceeding most satisfactorily, and the machine site should be ready for the machinery to be placed in position about the middle of June. A 10 stamp battery, with the necessary equipment, has been ordered from Walker's (Limited), of Maryborough, for delivery before the end of June, when no time will be lost in commencing crushing operations. Development work is progressing, and it is estimated that over 10,000 tons of ore are ready to be knocked out and sent to the mill. The directors have recently received two bags of quartz, which have been assayed by Messrs. Johnson, Matthey, and Co., and show an average of 17 ounces 10 dwts. of gold per ton of 2240 lbs. These results much exceed the estimate originally made by the resident director.

WASSAU (Gold Coast).—During the month of March last the 10 stamp battery worked 15 days 16 hours and crushed 263 tons of ore, producing 298 ounces standard gold, and giving a yield of over 1 ounce 2 dwts. per ton. This, together with 4¾ ounces obtained from tests made of ore from the new property, realised £1180 4s. 8d. Cablegrams have since been received advising the remittance for last month as 306 ounces of bullion and a yield of 1 ounce 3 dwts. per ton. The 10 stamp battery worked 14 days, and crushed 266 tons o ore

CRAVEN'S CALEDONIA.—The following fortnightly report has been received from the mine dated Charters Towers, March 26: In the underhand stope from No. 8 level the reef averages about 7 inches thick. In the No. 7 level on the hanging wall reef has been extended a further distance of 13 feet, making a total of 213 from the starting point, and the reef averages about 7 inches in the face, and in the five stopes over this level the reef will average about 9 inches. In the above stopes during this fortnight there has been a change of ground for the better. The haulage of quartz for the company for this fortnight is 33 tons, making a total of 41 tons in the paddock. Hooper and party, tributers over No. 6 level, have got about 16 tons of stone broken. Daddow and party have extended No. 5 level a further distance of 2 feet, making a total of 27 feet, and they have got about 13 tons of stone broken. Shepherd and party, in the west of No. 4 level, have got 15 tons of stone now going through at the quartz crushing mill, and the result will be in to-morrow, the 28th inst. Johnson and party, between No. 6 and 7 levels, have got about 8 tons, which has also been carted to the above-named mill.

GEM OF CUE.—Manager's report for month of March: There are no special developments during the past month, but work has been progressing in a satisfactory manner. I have been pushing on the main engine shaft, which is now sunk to a depth of 18 feet. Sinking is good and ground stands well without timber. The underlay shaft has been retarded slightly by the heavy downpour of rain. Have increased depth of shaft 7 feet. Lode has widened out to such an extent that I deem it advisable to leave a portion on the hanging wall. It is now about 8 feet in width (rather poor grade of stone, but improving as depth is attained).—Driving in shaft A. Will send you a plan showing work done. The lode is somewhat small, 1 foot to 18 inches; the stone is of good quality. I expect an increase in the size to correspond with the lode in the underlay shaft, which is from 6 to 8 feet wide. The greater portion of the stone, although of a not sensationally rich nature, is good payable stone. The auriferous nature of the quartz is improving as depth is attained.

GINSBERG.—The Johannesburg Consolidated Investment Company announce receipt of a report from the above company containing the following:—During the week ending April 15 the advance in mine development was 89 feet, including 7 feet 6 inches in the main incline shaft, which is now down 398 feet. The 10 stamp mill crushed 315 tons of ore and the cyanide works were charged with 218 tons of tailings for treatment. Samples of ore from mine assayed during the week averaged 1 ounce 11 dwts. 16 grains over an average reef width of 1 foot 9 inches. The erection of battery is being completed, and other surface works are well in hand. Crushing will be practicable when mine is opened up further, and various connections made which are now having attention. Labour supply is plentiful.

LINDSAY'S EXTENDED EAST.—Progress report for the four weeks ending April 2; During the above period we have driven 76 feet. By this mail per parcel post I am sending you plans of the workings brought up to date.—No. 2 underlay shaft. Am driving on the reef above water level, but at time of writing have not met with any good stone. The prospecting shaft on the lode formation, mentioned in my last report, is shown on the plans sent herewith. We are driving on course of lode, and have had some encouraging results, but nothing again so good as that of which I lately wrote you. In that case we extracted 2 ounces 1 dwt. from 28 lbs. of lode material, equal to 166 ounces per ton. Since then we have had up to 2 ounce prospects. The lode at present is about 4 feet thick, and strikes a little north of west and south of east. This you will see on the plan. There appear to be bands of this formation running between the quartz reef on the east and the diorite hill on the west. I think it is safe to estimate the average value of what we have explored at 1 ounce gold per ton. Should we discover a large body of this lode—and there is good prospect of doing so—an ounce to the ton should yield a profit on ordinary battery treatment. The stuff is very soft and friable, and stamps could treat a great quantity per day. With a view to further prospect this formation I am running out a drive north from end of west crosscut from main vertical shaft (see plan). This will test the lode to the northward. In accord with your instructions I am getting offers to supply a boiler and steam winding winch for the No. 2 underlay shaft.—(Signed) E. Davenport Cleland, general manager.

LINDSAY'S GOLD.—Progress report for the four weeks ending April 2:—During the above period we have sunk 5 feet and driven 22½ feet. Per parcel post by this mail I am forwarding plan of work done up to date.—No. 1 shaft, 115 feet level. The work of following the small vein to the eastward in search of the main portion of reef has been discontinued for the present. The rock is excessively hard, and driving has cost upwards of £8 per foot. As I am now driving east for reef at 200 feet level of No. 4 shaft, it was not necessary to continue the drive at No. 1 in the face of such heavy expense. I therefore transferred the men to the upper intermediate level to crosscut east to ascertain values at that point. At the time this level was reached by the original prospectors good stone was here met with. By now developing this I hope to expose additional rich ore bodies that will in the near future help to swell the supply to the battery. No. 4 shaft. This has been sunk to 200 feet level, and the country is rather easier than it was higher up. At 200 feet, as you will see by the plan, I have begun to crosscut to the east. In this direction I hope to find the reef which underlayed from a higher level out of the shaft. The finding of this and the ascertaining of its value is a matter of importance, and will serve to indicate the best course for future development. The pyrites lode now lies to the west of the shaft, and will be prospected later.—Dry crushing plant. The housing in of this has been completed. Since last report the machinery has been put in motion, as directed by you, to allow Mr. John James, M.E., to report to you as to its capabilities. His report will have reached you ere this comes to hand.—Surface work. The housing of the winding engine is now nearing completion, and is a substantial piece of work. Heavy rains have fallen, and have rendered it impossible to dry-blow the alluvial.—(Signed) E. Davenport Cleland, general manager.

MAY CONSOLIDATED.—The directors submit the following report for the month of March: Battery. 100 stamps ran 24½ days, crushed 10,500 tons. Gold won, 3007 ounces (average 5·726 dwts. per ton, valued at 72s. 6d. per ounce, £10,900 7s. 6d.—Cyanide works. Siemens process. 6170 tons tailings treated, gold won 864 ounces bullion, equal to (say) 648 ounces fine gold (average 2·1 dwts. fine gold per ton), at 80s. per ounce, £2592; other receipts, £45; total, £13,537 7s. 6d.—Working costs. Mining 10,500 tons, cost £7308 8s., equal to 13s. 11·048d. per ton; development 10,500 tons, cost £891 12s. 6d., equal to 1s. 8·38d. per ton; total, £8200 0s. 6d., equal to 15s. 7·428d. per ton. Tramming 10,500 tons, cost £326 14s. 4d., equal to 7·468d. per ton; crushing and sorting 10,500 tons, cost £418 16s. 10d., equal to 9·573d. per ton; milling 10,500 tons, cost £1918 6s., equal to 3s. 7·847d. per ton; total, £10,863 17s. 8d., equal to 20s. 8·316d. per ton.—Tailings treatment. Siemens process, 6170 tons, cost £1091 10s. 8d., equal to 3s. 6·45d. per ton; total, £11,958 8s. 4d.; profit, £1581 19s. 2d.—Expenditure on capital account. Construction, &c., £4175 6s. 9d. Note.—Owing to the shortness of native labour—especially of shovelling boys in the mine—it was impossible to raise sufficient ore of good quality to keep up the average yield per ton. The native labour difficulty is now gradually being overcome, and an improvement in the returns may, therefore, be looked for. The working time for the mill is calculated on a basis of 100 stamps, and, as only 80 stamps were in full work, the running time was consequently reduced.

MENZIES CRUSOE.—The following information is to hand from the company's manager at the mines, under date Menzies, April 4: Robinson Crusoe lease, C shaft. Have sunk the winze from west level a further depth of 8 feet, total 93 feet. At this depth water started to come in, so had to stop sinking as any further work here will have to be done from a deeper level from the new main shaft. E shaft crosscutted from the bottom of winze from north level, and proved lode to average 4 feet in thickness, good mineral stone. Sample gave result by assay—gold 2 ounces 19 dwts. 14 grains, silver 1 ounce 19 dwts. per ton. Crosscutted to hanging wall about half way down the winze, proved reef to average 5 feet in thickness Dish sample gave result equal to 1 ounce per ton.—G or main shaft. Have sunk shaft a further depth of 22 feet, total 98 feet; good blasting ground.—Crusoe east lease, main shaft. Have sunk a further depth of 28 feet, total 73 feet; ground good for sinking.—Crushing. We started crushing on Thursday, April 2, with 10 heads of the 20 stamp battery belonging to the Menzies Gold Reefs Proprietary (Limited). Stone from A shaft paddock. We have now been running about 48 hours. Copper plates looking very fair for the time we have been crushing, considering that everything is new, and that it always takes a few days to get plates in good order.

MENZIES GOLD REEFS PROPRIETARY.—The following information is to hand from the manager at the mines, under date Menzies, April 4:—Friday lease. A shaft extended west crosscut 1 foot, total 30 feet. Had to stop work here for the time to timber up the shaft. Have completed 30 feet of timbering, timbered chamber and laid plat, put in the skids, and have the cages working to the bottom. Shall now push on with crosscut.—Stoping. Have started stoping from the back of the 160 feet north and south levels. Reef averages 15 inches, showing gold; have not tried sample yet. Also started stoping from the back of the 80 feet south level. Reef averages 1 foot; visible gold in stone; have hauled about 8 tons.—Defoe lease. I started two men to put down a trial shaft on a gold bearing vein on this lease, but owing to heavy rain had to stop again. Shall continue this work on Monday next.—Crushing. We started crushing with 10 heads on March 26; found it necessary to alter pitch of launders and put in another settling pit. We completed the second 10 heads, and commenced regular crushing on Thursday, April 2, one 10 heads running on the company's stone and the second 10 heads on stone for the Menzies Crusoe Gold Claims (Limited). The plates are looking fairly well for the time we have been crushing. I expect we shall find a considerable percentage of gold left in the tailings from this crushing, owing to some of the stone carrying heavy mineral, from which we should only get the free gold. The battery itself is working very satisfactorily. We shall clean up about the end of next week. Hope crushing will prove very satisfactory.—Rain. We have had a very heavy fall of rain, and could have caught an enormous quantity of water if we had large dams. As I fully expect we shall have more good rains yet, I think it advisable to make another good dam on the Friday flat, say at a cost of £300 or £400, as, now that we are prepared with the battery, the first filling would pay for the cost of taking out.

MYSORE WEST AND MYSORE WYNAAD.—Tank Mine. Half monthly report to April 15: South shaft is down 527 feet 6 inches, progress 7 feet 6 inches. The water is very heavy from the bottom levels. Timbermen are on with the new skip road and new air main will be put down. 507 level No. 1 drive north on west lode is in 98 feet 9 inches. The lode has opened out to 2 feet wide, and is worth 8 dwts. per ton. 507 No. 2 drive south on east lode is in 88 feet, progress 23 feet 3 inches. The lode is 18 inches wide, and worth 1 ounce per ton. 507 No. 3 drive north on east lode is in 72 feet, progress 13 feet 6 inches. The lode is in mixed ground, but shows 2 feet of quartz worth 6 dwts. per ton. 450 drive north has been driven to a distance of 511 feet 6 inches, progress 12 feet. The end is soft and very wet, and looks well, but no lode has come in yet. 450 south winze has been sunk by hand to a depth of 18 feet 9 inches, progress 9 feet. The quartz is 3 feet wide, and has turned back to the east, and has started in direction of the 507 east lode which was as expected. Walker's shaft is 74 feet 6 inches deep, progress 4 feet.

MOUNT LYELL.—Engineer in charge of mine reports for week ending March 27:—No. 1 tunnel north drive. Distance driven for week 2 feet, total 14 feet.—No. 3 tunnel south drive. Distance driven for week 3 feet, total 562 feet.—No. 4 tunnel south drive. Distance driven for week 4 feet, total 474 feet.—No. 4 tunnel south drive No. 3 crosscut. Distance driven for week 2 feet, total 27 feet; pyrites in face not breaking so well.—No. 4 tunnel south drive No. 2 rise. Rise has been put 4 feet for week, total 8 feet, still in high grade ore.—No. 4 tunnel south drive No. 4 crosscut. Distance driven for week 2 feet, total 12 feet, face still very hard.—No. 4 tunnel south drive No. 3 rise. Rise has been put up 3 feet during week, total 4 feet, still in high grade copper ore.—Surface work: Compressor site. Erection of sheds making fair progress. Boiler has been raised and packed up to its right level and building of brickwork commenced.—Benches. Stripping surface and excavation of ore in No. 2 bench has been carried on during the early part of the week in good copper ore, that on the footwall being in high grade. No. 2 tunnel is being timbered, and traps put in for use in excavation of over burden on footwall of lode. During the latter part of the week the stripping of ore in No. 2½ bench, midway between levels of Nos. 2 and 3 tunnels has been started. The self-acting incline has been temporarily equipped with light rails, &c., and spoil from No. 2½ bench lowered down it to form bank at bottom of incline.—Progress report for week ending March 27; Hauling line. In operation hauling materials to mine machinery site, ore bins at mine terminus in course of erection.—Smelter building. Hot air main fitted together and up in place, bin doors in progress, also divers water piping.—Crusher building. Floor of sampling department finished, siding from through tram to crush bins completed except platelaying, preparing for setting of crusher engine and various other machinery, extension of bin housing completed.—Blast furnaces. Water pipes in place, fitting water connections of various jackets, waste water drains laid.—Hot blast stoves. All hot and cold blast connections of same and all brickwork now completed ready for hanging "U" pipes, putting on external binders.—Converter department. Terminus of hill flue in progress at foot of main chimney, balance of flue nearly completed.—Service tank. Pipeline from penstock laid, also reticulation from tank to furnaces.—Main flue. Bricking up manholes, first fires lit to test draft and dry flue.—Laboratory. Framework completed, chimney finished.—Flux quarries. Operations on silica quarry temporarily suspended, lime quarry in operation, trams into both completed. Weather very wet and rather stormy of late. Railway superintending engineer reports week ending March 28: Contract No. 24. All earthworks are now finished with the exception of 2½ miles from Lynchford to Hall's Creek, all of which is in a forward state. The culverts throughout are completed, and excellent progress is being made with the bridges, there being only three more to complete to the 15 mile. Contract 21 and 22. The earthworks are complete with the exception of some slight trimming, also two bridges are complete, and the remaining one is ready for the beams. This section should be finished in a fortnight. Contract 23. All bridges have been tarred and all the loose ground sown with the grass, and the formation elevated and boxed in, and this portion is in excellent running order. Weather very wet and unsettled.

OOREGUM.—Superintendent's report for fortnight ending April 31; Taylor's shaft. The 960 feet level south commenced and driven 25 feet. The 960 feet level north commenced and driven 25 feet. The reef in each drivage is very small, just a few inches of lode matrix interspersed with a little quartz. No sample taken. These drivages are now suspended, whilst ground for plat is being excavated at 960 feet level. When that is completed these drivages will be resumed and carried on concurrently with the sinking of shaft. The 860 feet level south driven 28 feet 6 inches, total 245 feet 6 inches. Lode 1 foot wide, assay value 3 ounces 3 dwts. 3 grains. No. 1 winze 860 feet level south sunk 3 feet 9 inches, total 27 feet 9 inches. Lode 9 inches wide, assay value 1 ounce 19 dwts. 4 grains. The 860 feet level north driven 10 feet 6 inches, total 114 feet 6 inches. Lode 7 inches wide, assay value 13 dwts. 2 grains. No. 1 winze, 860 feet level north, sunk 1 foot, total 9 feet. Lode 1 foot 3 inches wide, assay value 12 dwts. No. 3 winze, 760 feet level south, sunk 4 feet 6 inches, total 55 feet. Lode 1 foot wide, assay value 2 ounces 14 dwts. 10 grains. No. 4 winze, 660 feet level south, sunk 7 feet, total 30 feet. Lode 1 foot wide, assay value 9 dwts. 19 grains. Level north from back of No. 4 rise, 280 feet level south, driven 10 feet, total 155 feet 6 inches. Lode 9 inches wide, assay value 8 dwts. 17 grains. Wallroth's shaft sunk 9 feet, total 1195 feet 9 inches. The lode shows no improvement; very small, chiefly decomposed schist and pyrites. The 1060 feet level south driven 15 feet 3 inches, total 310 feet 6 inches. Lode 3 inches wide, assay value 6 dwts. 12 grains. No. 1 winze 1060 feet level south sunk 3 feet 6 inches, total 46 feet 6 inches. Lode still small. The 1060 feet level north driven 10 feet 3 inches, total 239 feet 6 inches. No. 1 winze in this level sunk 4 feet, total 51 feet. Lode at each point still small, no sample taken.—The 960 feet level south driven 20 feet 3 inches, total 807 feet 9 inches. Lode has contracted, which we hope is only temporary. No. 2 winze 960 feet level south sunk 6 feet 6 inches, total 81 feet. No lode. The 960 feet level north driven 13 feet 3 inches, total 187 feet 3 inches. Lode 4 inches wide, assay value 8 dwts. 17 grains.—The 760 feet level north driven 10 feet, total 475 feet 6 inches. Lode 3 inches wide, assay value 6 dwts. 12 grains. No. 3 winze 760 feet level north commenced, sunk 3 feet 6 inches. Lode 9 inches wide, assay value 4 dwts. 8 grains.—Level north from crosscut east 460 feet level south resumed, and driven 20 feet 6 inches, total 168 feet. Lode 4 inches wide, assay value 3 dwts. 6 grains. No. 1 winze level north from crosscut east 460 feet level south sunk 3 feet, total 61 feet. Lode 1 foot wide, assay value 10 dwts. 21 grains.—Communicated with No. 5 stope back of 560 feet level south.—The 460 feet level north driven 18 feet 3 inches, total 347 feet 9 inches. Lode 4 inches wide. No sample. No. 2 winze 460 feet level north sunk 6 feet, total 29 feet 6 inches. Lode 2 feet 3 inches wide, assay value 3 ounces 5 dwts. 8 grains. The 215 feet level south driven 10 feet 9 inches, total 336 feet 9 inches from shaft. Lode 9 inches wide, assay value 8 dwts. 17 grains. Reverting to the crosscut east from 215 feet level north, it has been further extended 4 feet 6 inches, making its total distance 27 feet, which cut through the quartz referred to in last report. We then commenced to drive south from crosscut east, and have extended it 11 feet 3 inches. The quartz is the whole width of level 4 feet 6 inches, a sample from which gave, by assay, 7 dwts. 15 grains of gold per ton. As far as we can now see, it appears to be the prelude to a large body of quartz.—Low's shaft sunk 4 feet 6 inches, total depth 830 feet 4 inches. The 810 feet level south from point of intersection driven 25 feet 3 inches, total 117 feet. Lode 6 inches wide, assay value 8 dwts. 17 grains. No. 1 rise, 810 feet level south from point of intersection commenced, risen 10 feet 3 inches. Lode 4 feet wide, assay value 9 dwts. 19 grains. Communicated with No. 1 winze from 760 feet level south. The 810 feet level north from point of intersection driven 17 feet 6 inches, total 51 feet 3 inches. This drivage is now in the dyke and it is intended to drive through it to prove the lode on the other side and to effect a communication with Probyn's shaft. The 710 feet level south driven 2 feet 9 inches, total 328 feet. Lode 3 feet wide; no sample. No. 2 winze 710 feet level south sunk 7 feet 6 inches, total 39 feet 6 inches. Lode 2 feet 6 inches wide, assay value 6 dwts. 12 grains. No. 1 winze 710 feet level south driven north on lode from point of intersection sunk 5 feet 6 inches, total 66 feet 6 inches. Lode 2 feet 6 inches wide, assay value 5 dwts. 10 grains. The 610 feet level south driven 5 feet 9 inches, total 292 feet 3 inches. Lode small. The 510 feet level south driven 4 feet 9 inches, total 428 feet 6 inches. Lode 3 inches wide; no sample. No. 2 winze 510 feet level south sunk 6 feet 9 inches, total 18 feet 9 inches. Lode 1 foot 3 inches wide, assay value 6 dwts. 12 grains.—Probyn's shaft. The 1150 feet level north driven 13 feet, total 86 feet 6 inches. Lode 6 inches wide, assay value 5 dwts. 10 grains. Communicated with No. 1 winze from 1050 feet level north. The 1050 feet level south driven 6 feet, total 160 feet. Lode very small. No. 1 winze 1050 feet level south sunk 3 feet, total 40 feet 6 inches. Lode 2 feet 6 inches wide, assay value 3 dwts. 6 grains. Throughout the mine 76 stopes are being wrought on, which are yielding quartz of the average quality, all of which will be measured at the end of month, and full particulars given in our next report.

OURO PRETO.—Passagem Mine report for March; 505 end north-east was driven 1·70 metres. The lode has opened up, and the end is now full size in good quality ore. 505 end south-west was driven 4·40 metres in schist without ore. 470 end north-east was driven 4·50 metres. It is now in a bar of schist against the hanging wall, but quartz is holding along the floor. Crosscut at 470 north-east was driven 0·60 metres in footwall schist. 470 end south-west was driven 4·20 metres in schist against hanging wall. 470 end south-west of No. 2 shaft was driven 3·70 metres. It continues full size in quartz lode, carrying strings of iron pyrites. End under 435 in No. 2 shaft was driven 4·20 metres. It carries a branch of quartz 1 metre thick against the roof, but the lower part of the level is at present in quartzite. 435 end north-east was driven 2·80 metres. The ore is increasing in size, and is nearly full size of end, though still rather mixed with quartzite. Crosscut at 435 between shafts is being driven into hanging wall to give room for starting a winze by the side of the level. It was advanced 1·80 metres in very hard jacotinga. Winze at 435 between shafts is being put down to hasten communication from a rise from 470 level. It was sunk 2 metres full size in lode. 435 end south-west was driven 1·90 metres, and continues in hard quartzite. 400 end north-east was driven 4·30 metres. It is in mixed lode, carrying bars of quartzite interstratified with good branches of quartz and pyritic ore. Crosscut at 400 north-east was driven 1·60 metres in hard quartzite. 400 end south-west was driven 5·90 metres in schist, carrying small lines of quartz. 365 end north-east was driven 2·60 metres, and shows a more promising appearance. The quartzite is not so hard, and carries interstratified lines of quartz. Rise at 365 south-west was advanced 3·50 metres in schist without ore. Rise under 365 in No. 2 shaft was advanced 1·60 metres, and is now in strong quartz well spotted with pyrites. 315 end north-east was driven 4·30 metres in hard quartzite, with only small lines of quartz. Rise over 312 north-east was advanced 3·40 metres. A branch of ore continues against the roof, and the ground appears to be getting more mineralised. 315 end south-west was driven 2·20 metres. It carries small branches of ore in mixed quartzite and schist. Rise from 265 south-west was advanced 0·60 metres, and has just reached footwall of lode. 215 end north-east was driven 3 metres full size in strong quartz assaying 16 grammes per ton.—Stoping. The stope at the 470 north-east continues to open up well, the lode being nearly 4 metres thick, and composed of clean milling ore, assaying 15 grammes per ton. At the 435 between shafts the amount of ore broken was much less than usual, for on the communication of two of the stopes to the 400 level considerable falls of the roof took place, and it will take some time to build up and secure the stopes before the lower part of the lode standing under the level can be removed. The middle stope continues in strong quartz 8 metres thick. In the stope at 435 north-east of No. 2 shaft the outer end is in ore 3 metres thick, but the inner end is in schist. Below the 435 north-east another stope has been started but is not yet in the main ore body, and the quartz is low grade. At the 400 north-east a very regular ore body is heading up over the length of four stopes now worked. In the inner stope the sterile quartzite has nearly cut out, and the ore averages over these stopes 3·50 metres thick, and is of good average yield. At the 400 south-west the stopes near rise 28 have all communicated to the 365 level. Over the inner stopes the ground has been removed, but close to the rise a branch of quartz 3 metres thick has been found deep under the level. This probably holds up under the poor ground in which the level was driven, and a stope will be carried up on it. A new stope has been started north-east of rise 28, and though it carries a good deal of quartzite the ore appears to be opening up. In the inner stopes at 365 south-west the lode is holding up very regularly about 3 metres thick, and carries a good deal of pyritic and tourmaline ore. At the 365 south-west the lode in stope is now over 5 metres thick, but carries a great deal of schist and quartzite. At the 315 south-west the lode is composed of quartz carrying good patches of pyritic ore throughout, and averages about 4 metres thick, over a stoping face 40 metres long. At the 315 north east little stoping has been done on the Buraco Secco shoot, but a big masonry pillar 9 metres high has been carried up to the roof, a tip shoot has been fixed in the winze, and all preparations completed for resuming stoping on this large ore body. At the 235 south-west the lode in south-west end of stopes has increased in thickness to 5 metres, and carries branches of clean pyritic ore near the footwall. The stopes at the 215 north-east continue on a very strong regular ore body 5 metres thick, but the ore is rather below the average yield.—(Signed) Henry J. Gifford.

AUSTRALASIAN.—Fortnightly report of Mr. John James, manager, dated March 26: During the past fortnight the shaft has been sunk 20 feet, total 780 feet, and a chamber cut out on the west side of the shaft 16 feet high by 10 feet wide and 6 feet cut out at the bottom of chamber. The crosscut will be 768 feet from the surface. The country sunk through for the last 12 feet was a light grey rock, but we cut a floor yesterday with a little plumbago on it. The country under this is black rock. I have erected a tramway 70 feet in length and 26 feet high to truck the mullock from the shaft. I have ordered one safety cage and three trucks. Everything about the mine and plant is in good working order.

ALAMILLOS.—Mine report, dated May 6:—The 70 fathom level driving east of Sans winze has improved in appearance, and contains some stones of ore. The 40 east of Santa Agueda shaft is passing through a bar of unproductive ground. The lode in the 65 west of Taylor's engine shaft is only slightly mineralised. The 160 west of the same shaft has a more kindly appearance, and turns out some stones of ore. The 100 east of Judd's engine shaft continues to open out well, and is valued at 4 tons per fathom. Hermann's winze sinking below the 60 fathom level has greatly improved in value, and is now worth 2 tons per fathom. The lode in Marques' winze below the 100 fathom level is disarranged and unproductive.—Diaz' rise in back of 100 fathom level. The lode has declined in value to 2 tons per fathom. The stopes are yielding well. Surface works are going on very regularly, and the machinery is in good working order. Estimated raisings for May 250 tons. The tributers returned 38¼ tons of mineral in the past month.

BAYLEY'S REWARD No. 1 SOUTH.—The manager at the mine writes under date March 31: The stopes are still yielding splendid stone with the rich coarse gold showing on and off daily. This should be a good month's run; the plates are already looking really good, which argues well for the contents of the bores.

CROWN UNITED.—Extract from letter received from Mr. J. J. Cooper, Coolgardie, April 8: I made a thorough inspection of your property on Saturday last, and was very much pleased with the work done, and the favourable development of the mine. As you are aware, the reef we are working on lies very flat, and the tunnel—which is about 700 feet long—has been driven to connect the mine with the mill. The tunnel is a splendid piece of work, and is perfectly secure. I tried samples from different parts of the mine, and I anticipate that they will go fully up to our previous estimates. We estimate that the stoping and tramming to the mill of this reef will not exceed 7s. per ton, therefore the margin of profit should be exceedingly good. The vein is well opened up, and we can stope sufficient ore in one shift to keep the 10 stamp battery going full time. The water shaft has been sunk to a depth of 130 feet, and at present we are getting 2000 gallons a day. We anticipate that by the time the mill is erected we shall get from 15,000 to 20,000 gallons a day, which will be an ample supply for all purposes. The shaft is 7 feet by 4 feet and well timbered. The delay in getting up the greater portion of the machinery is exceedingly annoying, but this is not our fault. As I believe you are aware there is a block of over 15,000 tons of machinery at Fremantle, and the Government has not rolling stock sufficient to bring it on. However, we are making special arrangments to get it delivered, and if we succeed we hope to get it on the mine within a month. In a further report it is stated that an additional 12 acres have been secured making 51 acres in all, and that it will take about two months to erect the machinery from the date of its arrival.

CHALLENGE GOLD ESTATES PROPRIETARY.—Niagara, East Coolgardie, West Australia, March 31: Report for fortnight ending March 28: Thistle. Shaft is now down 63 feet. Timbered 30 feet.—Shamrock. Shaft is down and completely timbered to 47 feet.—Port Pirie East. Drive opened in west end of shaft on the reef and is in about 10 feet. Sinking has been discontinued, but the water is still increasing, and has to be baled out daily below the level of the drive.—(Signed) H. Johnston.

COROMANDEL.—Superintendent's report for fortnight ending April 18:—Prospect shaft. This shaft has been sunk 20 feet since last report, and is now 84 feet below the 600 feet level. The shaft is in the hanging-wall side of the lode.—600 feet level north driven 32 feet, total 86 feet from crosscut. The present end is in the slide, which has cut the lode out completely.—500 feet level south. The crosscut east of this level has been driven 20 feet, total 467 feet. The ground is improving in character, and we occasionally meet with small branches of quartz.—260 feet level south of the winze. This has been driven by hand labour 3 feet, work being greatly hindered by an influx of water. Lode all the size of the drift, but of mixed character, showing only a trace of gold in the pan.—East shaft, 500 feet level north, driven 4 feet 6 inches, total 194 feet. Lode 3 feet wide, of solid quartz, assaying 1 ounce 4 dwts. of gold per ton.—320 feet level north. The drift south-east on the fold has been advanced 34 feet, total 71 feet from main drift. The quartz has cut out in the end, and the machine has been placed to cross-cut east about midway in the fold. 200 feet level north driven a further 5 feet 6 inches, and suspended. Total length of the level 500 feet. This machine has since been placed in the rise back 40 feet south of east shaft, where it has risen 35 feet, total 53 feet. Lode 1 foot 6 inches wide, worth 14 dwts. of gold per ton.

COLUMBIA (Charters Towers).—The mine managers report as follows:—The contractors during the fortnight ending March 25 have sunk the vertical shaft 27 feet, making the total depth 160 feet from the surface. In the beginning of the week a small formation was passed through, carrying thin veins of quartz, but of no value. The ground in the bottom is favourable for sinking, and good progress should be made in future.

CHAMPION REEF.—Fortnightly report of Captain James Rowe, superintendent, dated April 20: Dalzell's shaft. This shaft has been sunk 6 feet 9 inches, total depth below the 840 feet level 33 feet 9 inches. Lode 3 feet wide, assaying 1 ounce 7 dwts. of gold per ton.—Garland's shaft. No sinking has been done, as we are engaged cutting tip plat. In cutting this plat we have discovered another part of the lode about 3 feet west of the part which the shaft was sunk on. This part is 2 feet wide, assaying 1 ounce 10 dwts. of gold per ton. The 1040 feet level south of shaft has been extended 28 feet 3 inches, total length 64 feet 9 inches. Lode 2½ feet wide, assaying 1 ounce 19 dwts. 4 grains of gold per ton. There has been no driving done in the south level, the rock drill being put to assist to cut trip plat. The 940 feet level north has been extended 25 feet 6 inches, total length 504 feet 6 inches. Lode 4½ feet wide, assaying 1 ounce 13 dwts. of gold per ton. No. 3 rise above level risen 13 feet, total height 54 feet 6 inches. Lode 6 feet wide, assaying 1 ounce 7 dwts. of gold per ton. The 940 south extended 26 feet, total length 440 feet 6 inches. Lode smaller, is now 6 inches wide, assaying 1 ounce 2 dwts. 12 grains of gold per ton. No. 3 new rise above level, 110 feet south of No. 2, risen 18 feet. Lode 1½ feet wide, assaying 16 dwts. 20 grains of gold per ton. No. 2 rise above level risen 16 feet 3 inches, total height 63 feet. Lode 1 foot wide, assaying 16 dwts. 12 grains of gold per ton. The 840 feet level north of shaft has been extended 5 feet 9 inches, total length 852 feet 3 inches. We have suspended the driving of this end for the present, and are now driving crosscut west. The crosscut has been driven 7½ feet in a good run of strata, which leads us to think another part of the lode is standing to the west of present level. No. 3 rise above 740 north risen 8 feet, total height 27 feet. Lode 1½ foot wide, assaying 1 ounce 12 dwts. 23 grains of gold per ton. This rise is communicated with winze sunk in bottom of 840 feet level south of Ribbledale's shaft, and has opened up a great extent of profitable stoping ground. New winze below 740 north (in forebreast of level) has been sunk 3 feet, total depth 3 feet. Lode 1 foot 6 inches wide. No sample taken. Level south of No. 2 rise in back of 240 north of west crosscut on back of shoot of ore has been extended 17 feet 9 inches, total length 61 feet 3 inches. Lode 2½ feet wide, assaying 1 ounce 19 dwts. 4 grains of gold per ton.—Ribbledale's shaft. This shaft has been sunk 2 feet, total depth 739 feet 8 inches. Lode small and without value. We have commenced to drive crosscut north-east of shaft to meet with east part of lode seen in the upper levels south of shaft. The 640 feet level south of crosscut east of level south of shaft has been extended 18 feet 9 inches, total length 270 feet 6 inches. Lode is smaller, being 6 inches wide, assaying 16 dwts. 12 grains of gold per ton. No. 2 rise above level risen 15 feet 6 inches, total height 59 feet. Lode 2½ feet wide assaying 13 dwts. 12 grains of gold per ton. New incline winze below level north side of crosscut on back of shoot of ore has been sunk 7 feet. Lode 6 inches wide, assaying 1 ounce 6 dwts, 12 grains of gold per ton. No. 3 rise above level risen 10 feet 9 inches, total height 52 feet 3 inches. Lode 1½ foot wide, assaying 12 dwts. 14 grains of gold per ton.—Carmichael's shaft. This has been sunk 1 foot 6 inches, total depth below the 640 feet level 15 feet 6 inches. The west part of lode is still small, and without value. The 640 feet level north of shaft has been extended 13 feet 6 inches. total length 30 feet. Lode 6 inches wide, assaying 1 ounce 7 dwts. 19 grains of gold per ton. No. 4 rise above 540 north of east crosscut on east part of lode risen 7 feet 6 inches, total height 74 feet 9 inches. Lode 5 feet wide, assaying 16 dwts. 12 grains of gold per ton. The 440 feet level north of crosscut east of shaft has been extended 16 feet 3 inches, total length 154 feet. We have now turned the end west to meet with part of lode seen in No. 2 rise in back of 540 north.—Rowe's shaft. The 615 feet level north of shaft has been extended 8 feet 9 inches, total length 61 feet. Lode 2 feet wide, assaying 2 ounces 12 dwts. 8 grains of gold per ton. Rise above 615 south of shaft risen 12 feet, total height 40 feet 6 inches. Lode 1 foot wide, assaying 1 ounce 18 dwts. 19 grains of gold per ton. Rise above 515 level south risen 9 feet 9 inches. Total height 23 feet 6 inches. Lode 6 inches wide, assaying 1 ounce 9 dwts. 14 grains of gold per ton. We have 63 stopes working throughout the mine. The value and size of lode in each stope will be given in next report.—New vertical shaft. This shaft has been sunk 16 feet total depth 147 feet. We have cut a small stream of water in this shaft which has necessitated our fixing a 3 inch donkey pump in shaft to cope with same.—Cyanide plant. The masons having completed the necessary buildings, we are now engaged roofing same, and expect to commence next week fixing the necessary vats.—New mill. The erection of the engine is progressing satisfactorily. We are now busily engaged building the necessary catch pits for tailings, and also a large reservoir for returning the water. We hope to be able to start this machinery latter part of next month.—Health. We have been having very hot weather the last few days, and some of our European employés are laid up with fever.

CAPE COPPER.—Captain Henwood, March 31: Ookiep, Remarks. The stope in the bottom of the 130 fathom level east winze is still yielding a little saving stuff. The stope in the 80 fathom level, now going north-west of 16 level, yielding about 2 tons of copper ore per fathom. This stope is situated north west of winze or sink referred to in my last report. The 68 fathom level south-east of No. 16 level continues to yield saving stuff. There is no material change in the nature of the rock in either of the 58 fathom levels since last report. The stopes throughout the mine continue to yield well.—Captain Henwood, March 31. Trial Mines. Nababeep South. Nothing of value having been met in the 174 fathom level north-east of shaft it has been suspended, and the men put to cut out the side of the 59 fathom crosscut, about 25 fathoms north of No. 1 winze, with the object of sinking a winze (No. 3) to prove the ground between the 59 and 74 fathom level in this part of the mine. The rock in the 59 fathom crosscut, north of No. 1 winze, has not undergone any change to notice. It is still spotted with copper ore throughout.—Spectakel. The 53 fathom crosscut north on No. 1 flookan course has been temporarily suspended to prove a little productive ground passed through about 8 feet back from the forebreast, which yielded saving stuff in passing through. The rock in the 46 fathom level west of No. 1 flookan course having become unproductive, it has been suspended, and the men are put to cut out each side of the level to ascertain if the productive ground is running in any other direction.—Copperberg. The 10 fathom level west of whim shaft produces occasional stones of copper ore. The ground in bottom of No. 3 trial shaft contains spots of copper ore. The rock in the 30 fathom crosscut north from bottom of No. 1 trial shaft also contains spots of copper ore. The rock in the 28 fathom crosscut north and south of No. 2 trial shaft is composed chiefly of quartz.—Ookiep east. The rock in the 80 fathom level west of south-east level being hard and not very congenial for copper ore it has been suspended. The stope in the bottom of the 66 fathom level south of winze is yielding its usual quantity of mineral for the smelting works.—Returns for March. Ookiep, 2140 tons of 18 per cent. Spectakel, 120 tons of 27 per cent. —Tilt Cove. East Mine. Output for February. 4910 tons of 3·85 per cent. wet assay.—Output for March. 4980 tons of 3·80 per cent. wet assay.

GOLD FIELDS OF MYSORE.—Mine report for fortnight ending April 21: South shaft. The 280 feet level crosscut east has been extended 13 feet 6 inches, total 463 feet 9 inches. Since passing the vein referred to in my last report nothing new has been met with. The crosscut is now going forth in hard massive rock.—The 380 feet level north. Crosscut west has been advanced 5 feet 6 inches, total 198 feet 6 inches. Nothing of importance has been met with here since last reported. A new drive south of the above crosscut has been started on a lode 150 feet. West of the Oriental lode 15 feet has been driven. The lode is about 3 feet 6 inches wide, and is composed chiefly of quartz, an assay from which gave a trace of gold. The end driving south at this level has been extended 9 feet, total 478 feet 5 inches. It has apparently got through the dyke, but not finding any lode we have commenced to crosscut west in search of it. The 470 feet level end north has been driven 21 feet, total 256 feet 6 inches. The lode formation maintains its size, but is of no assay value. The rise above the south level has been risen 12 feet, total 22 feet above the level. The lode is 3 feet wide, quartz, assaying 3 dwts. 22 grains of gold per ton.—South shaft. This has been sunk 9 feet 6 inches, total 60 feet 6 inches under the 470 feet level. The lodey matter is 6 feet wide, carrying 2½ feet of quartz, assaying 3 dwts. 6 grains of gold per ton.—Stopes. Stope over the 280 feet level south. Lode 4½ feet wide, assaying 18 dwts. 7 grains of gold per ton.—Stope over the 280 feet level north. Lode 7 feet wide, assaying 6 dwts. 12 grains of gold per ton.—Stope over the 380, No. 1 lode. Lode 6 feet wide, assaying 3 dwts. 6 grains of gold per tons.—No. 2 stope south. Lode 3½ feet wide, assaying 2 dwts. 15 grains of gold per ton.—Stope north. Lode 2½ feet wide, assaying 2 dwts. per ton.—Prospecting shaft. Goloonda block. The crosscut east from bottom of the shaft (73 feet from surface) has been driven 10 feet, total 24 feet, nothing of value has as yet been met with.—Ajjapalli. This shaft has been sunk 8 feet, total 93 feet from surface. There is no change in the character of the rock since last reported, which is traversed with quartz veins assaying 1 dwt. 7 grains of gold per ton.—Cyanide plant. The walls for this are up, and the roof on. The carpenters are now fixing the beams for carrying the vats.

GELDENHUIS ESTATE AND GOLD.—Summary of operations for March:—Quartz mined, 17,739 tons of 2000 lbs.; quartz milled (120 heads), 15,134 tons of 2000 lbs.; yielding smelted gold, 4321·60 ounces valued at £14,879 8s.; tailings treated 9087 tons 1411 ounces, concentrates treated 400 tons 472 26 ounces, valued at £4941 7s. 6d.; slimes and slag sold, £2391 16s. 5d.; total, 6204·86 ounces, valued at £22,212 11s. 11d.—Cost. Mining and hauling, 7s. 2·29d.; transport, 4·80d.; milling, 2s. 8·97d.; general maintenance, 2s. 6·67d.; charges, 4·41d.—13s. 3·14d. per ton; expended on mine development, £2181 5s. 10d. (2s. 10·59d. per ton); total cost per ton, 16s. 1·73d. Cost of producing and treating concentrates, £125 10s. 3d.; cost of treating tailings, £1557 0s. 7d.; total cost, £14,735 11s. 11d. Profit for month, £7477.—Capital account: Expended on machinery, new shafts, &c., £2910 11s. 2d. Number of feet driven and sunk during month, 609 feet. The ore developed for the month amounted to 17,318 tons. The ninth annual meeting will be held on May 13.

GOLDEN DOVE.—The directors have just received a very long and exhaustive report from Mr. A. E. Edwards, who, it will be remembered, was deputed to visit the properties of the company in Africa. The following are extracts from Mr. Edwards' voluminous report, which is itself open to the inspection of the shareholders at the offices of the company: Greytown, April 6.—I arrived in Durban, after a long voyage, on March 27th ult., and Greytown on the 31st ult. Upon my way to the mine I was fortunate enough to get introductions to most of the principal men of business and others at Durban, Maritzburg, and Greytown, and was able to obtain useful information as to the colonial opinion of the Umsinga gold field. Opinions vary as to its prospects, but great hopes are entertained that the district will prove successful, and thus benefit the colony. I am pleased to tell you that I have been very courteously received, every assistance has been offered me, and colonials have been very kind to me all through. With respect to the several matters which I was instructed to attend to immediately upon my arrival, I will proceed to give in detail my opinion; only adding that I have spent a great deal of time in very carefully examining the managers (both alone and together) and others upon the property, and have thoroughly satisfied myself that no better course can in any case be taken than that specified by me. After particularly careful enquiries, I can only come to the conclusion that Mr. Dike (the mining manager) is acting perfectly straightforwardly with the company that he is keenly desirous of making the company a success: that he himself is thoroughly convinced that he will be able to do so if he is allowed a free hand so far as the mining operations are concerned; that he is working very hard and energetically at the mine (it is a fact that he has been absent upon two occasions only since his arrival back from London); that little or no foundation exists for the statements as to his ill-treatment of the Kaffir boys, they appearing to be a happy and contented lot of men. This last point was settled for me by a gentleman intimately acquainted with Kaffirs, and who talks their language perfectly (a magistrate of Natal—Mr. Hughes-Chamberlain). He says they are a fine set of men, that they work well and appear satisfied, the only point being that they are getting higher wages (30s. per month) than usual. They work night and day, however, and Dike himself says that he will back his men to do more and better work than any others in the colony, and this I quite believe. Mr. Dike is a most determined and independent man. This I have amply proved to be the case.—Machinery. You will no doubt have been considerably disappointed at not having heard that the machinery had started. The stonecrusher and pulsometer arrived, and took considerable time and trouble to get across the river on to the battery site. This has caused a delay of some weeks. After careful estimates I think I am right in saying that a fair start will be made within six weeks from the present date. The engine is quite completed and the battery very nearly so. The pump is now being fixed in the well, and this will be finished in a few days. A tank (2000 gallons) has to be obtained and fixed in position, and pipes to connect same from pump and to engine and battery. The tank will have to be put in position first (at least that is what I have told them to do, in order to be sure of the pipes being correct and thus save any possible delay), and then the exact dimensions of piping can be decided and the latter ordered. Altogether this should not take a fortnight. Then the stonecrusher has to be fixed up, which will not be a long matter. The timber for the battery tables (supports) has been ordered and will be delivered (made up ready for fixing) within the next day or two. This will complete the machinery, which will then have to be housed in. I have instructed Jones to get estimate for the erection of this, which he is now doing, but, of course, this will not stop the starting of the battery. I do not think any fear need be entertained as to the efficient fixing of the machinery. It has taken three times as long as it should have done, but has, so far as I am able to judge, been carried through in a very thorough manner.—Quartz available. There is a large quantity of quartz ready for crushing; some very rich indeed. Altogether I should think Dike is not far out in his estimate that he has from 1200 to 2000 tons of stuff quite ready, and which will average over 1 ounce to the ton. He is quite confident of being able to keep the battery going when once started, and from the amount of work done, and the business-like look of things generally, I would certainly sooner take his opinion than that of any other person upon this point.—Work done upon the mine. I spent the whole of one very hot day going down the several shafts and along the drives upon the Golden Dove area, and was much surprised at the great amount of work which has been done. You will have received a cable from Dike that Scott's reef has been cut in the drive. I have seen it myself, and in order to make more certain, I had the reef for the full width (nearly 6 feet) cleaned, so that I could better see it (as it was hidden by dynamite smoke), and there it was—good solid looking stuff. I am going to take samples right across the reef myself, so that, after assaying, there can scarcely be a doubt about it. Dike can hardly restrain his expressions of pleasure at this development. The drive itself is a splendid bit of work. I walked upright nearly the whole length (over 400 feet) and at the innermost end, looking back, it is as straight as a die—to daylight. This is being proceeded with night and day, and at intervals the dynamite can be heard exploding like thunder. At each explosion the whole of the Kaffir boys (60) yell like maniacs. It is a way they have when they hear a noise. The deep shaft on the Golden Dove is a fine one. The reef can be followed down all the way, and can be seen to increase in amount of quartz as depth is attained. It is not a solid reef, as you know, but at the top the leaders (or cobbles) of quartz are thin and few, and increase in size and number deeper down. About 30 feet from the present bottom of this shaft a drive on the reef in each direction has been carried for some distance, and from the far end of this in each case I have taken a sample, as also from the bottom of the shaft. It is the same in the other shafts upon the Golden Dove, Michaely's, and Scott's reefs. They all appear to me to be good and to increase in width and value as they go down. I have taken small specimens from nearly all the shafts and drives, and am bringing them home carefully labelled. These I have taken myself from just the reverse of the places where I was pointed out good stuff, and if they assay well I shall, personally, have no doubt whatever as to the richness of the property, nor do I think you yourselves will.—Registration of company in Natal. At Maritzburg I called at the offices of the Commissioner of Mines and Registrar of Deeds for Natal. There I learned that all the leases for the three areas had been granted, so that they are now registered in the name of the company.—Amalgamator and engineer. I have sent Mr. Jones to Maritzburg for the purpose of getting particulars of both these, so that I can see them if possible on my way back. Garrett is to stop for a month after the machinery starts, so that the engineer will no be required for two or three months. The amalgamator will be wanted very shortly, and I shall endeavour to get the question settled before I leave.—Oxen and wagon. These have not yet been obtained. I have discussed this question very fully with Dike and Jones, and have come to the conclusion that it will certainly not pay the company to do their own transport. Transport is both plentiful and cheap, and from enquiries which I have myself made, I find that the people here with oxen and wagons are only too glad of a job. Mr. Jones over this point is again in error where he has said in his letters that it was difficult to obtain transport, and he has made the great mistake of going to one man instead of making enquiries elsewhere for himself. What will be required is a cart (perhaps two), and about eight or 10 oxen for use upon the mine only, and these will cost altogether about £100. First-rate seasoned oxen are about £5 each. Jones is to enquire about this in Maritzburg while he is there. My friend, Mr. Hughes-Chamberlain, has been a great assistance to me in this matter, as he has had much experience in such things. Dike has made a good road to the battery from the top of the hill, so there will be no difficulty upon this score.—Instructions to Dike and Jones. You will remember that when Dike and Jones left for the mine written instructions were given to each, and these instructions, had they been carried out, would have been perfect. I have now given them further orders (as to custody of amalgam, keeping account of stuff passed through battery, &c.) to which they mutually agree. Jones withdraws his resignation, agrees to do his best to work smoothly with Dike for, at any rate, some few months further, and as all difficulties seem now cleared away, and I do not see that any others are likely to occur, I advise leaving both Jones and Dike in the positions they now hold until the machinery has been started and the success of the mine assured, which will be very shortly.—Marais and Intermediate Hill. I have been all over these in the company of Dike and Jones, and I have no doubt whatever that Marais is equally as good as the Golden Dove, and that the same reefs run through the Intermediate Hill, but the latter will

perhaps, take longer to develop as the reefs are much deeper from the surface, and no work has yet been done upon it. There is a fair road, which can be easily improved from Marais to Golden Dove, so that the quartz could be brought to the Golden Dove battery, if necessary. There is no question about there being an ample supply of timber. Dike has cut stacks all over the properties ready for the engine starting. Water power. I am not able to say much about this. From my own observations, I should think it would be a very difficult matter to arrange for water power for the battery, as the river rises high and falls low very rapidly, and at low water there is very little fall, unless from much higher up where I have not been. No doubt when you are ready to put up further stamps this question can be settled. In the meantime there is no difficulty about obtaining water rights. —Mr. Stewart Rogers. I have had several long interviews with Mr. S. Rogers In conclusion, I am very glad you thought it advisable to send someone out here. I can certainly say that the mine has the appearance of a very flourishing concern, a lot of work is being got through by Dike and his men. I am quite convinced of Dike's honesty to the company, and also that Jones has the welfare of the company at heart. There is not the slightest doubt about there being rich quartz (and very rich) in the mine, but there is just the doubt in my mind as to whether Dike will be able to keep the stamps in full work for a little time. He says positively he can do so, and as he has good machinery and plenty of labour it must now be left in his hands, and that the result will be highly satisfactory I personally have no doubt whatever. His integrity has been doubted by two or three people, but with every desire to do so I have not been able to find a single specific statement against him. He was genuinely pleased to see me, and whenever I confronted him with Jones or anyone else his manner was certainly that of a straightforward, honest man. (Signed) Arthur E. Edwards.—The directors, therefore, expect to hear very shortly that the machinery has started, after which regular returns are anticipated. Mr. A. E. Edwards is expected to reach England on his return within the next few days.

GREAT BUNINYONG ESTATE.—Ballarat, April 6: Preliminary arrangements preparatory to resuming sinking the alluvial shaft about completed. Expect to have the pumps seated during the week, and a few days will suffice to take out the water. Centreing for three compartments will then be proceeded with, and sinking resumed. At the quartz shaft the construction of the chamber is about finished. Easter holidays are somewhat retarding progress, but work will be more actively carried on at the end of the week.

FORTUNA.—Mine report dated May 6:—Canada Incosa Mine. In the 110 fathom level driving west of San Pedro's shaft the lode contains some good lumps of ore, and is valued at ½ ton per fathom. —Los Salidos Mine. In the 212 east of Taylor's engine shaft the lode is valued at 2 tons per fathom, and looks kindly, and good stoping ground is being laid open. The driving of the 200 east of the same shaft has been suspended, owing to the poverty of the lode. The 200 crosscut south of the same shaft has been started in order to discover a south branch of the lode. In the 92 west of Palgrave's shaft nothing of any value has been met with. Santo's winze below the 200 fathom level is going down through a fairly productive lode, worth 1½ ton per fathom. The stopes are yielding fairly well. Surface works are kept on very regularly, and the machinery is in good working order. Estimated raisings for May 200 tons. The tributers returned 65 tons of mineral in the past month.

HAMPTON PLAINS EXPLORATION.—The following is the weekly report of work done on Block 59, dated March 21:—No. 1 shaft. Drives extended at the 95 feet level. West drive 11 feet, making total length of drive 16 feet. East drive 8 feet, making total length of drive 10 feet. The reef is 18 inches wide at face of west drive, and 3 feet wide (solid stone) at face of east drive. The quality of the stone has improved a little. A sample, No. 80, assayed 4 dwts. per ton. This sample was made up as per instructions—namely, a piece of quartz taken from every bucket that was sent up during the week, and put in a heap, the stone being afterwards broken up together, and the sample bag filled.—New reef. On the new reef found the trenches have been sunk to a depth of 6 feet. In most of these the stone is going down strongly, and shows gold in a number of pieces broken. Sample No. 26 taken from the bottom of these trenches assayed 5 dwts, 5 grains per ton. — The following is the weekly report of work done on Block 59, dated April 4: New find. Shaft on new find sunk 6 feet, making total depth of shaft 18 feet. The lode consists of several quartz leaders with mullock between. The said leaders and mullock are spread over the width of the shaft. During the week a splendid shoot (or chute) of gold was met with. In addition to the gold showing in the stone splendid prospects were obtained in washing samples of the mullock. Samples No. 5 taken from mullock all over bottom of shaft assayed 18 ounces 3 dwts. 16 grains.—General. During the week I also found quartz carrying gold where the Hampton Land Company have their dry blowing machinery, but I have failed so far to pick up the gold-bearing lode.

HETTY.—Extract from manager's report dated April 17: My report on work done during the past week is as follows: Shaft 2N, north drive, driven 8 feet 6 inches, total 17 feet 6 inches. West drive driven 9 feet, total 17 feet 6 inches. The shaft was also sunk 2 feet, total 27 feet. Reef in drives not stripped, but sample from the west drive gave a very good show in the pan, and reef appears to be about 6 inches in width.—Shaft 3N. East drive has been stripped and is now in 7 feet 6 inches; also west drive driven 6 feet. Reef is small and left in roof at present.—Shaft 4. West drive advanced 7 feet, total 44 feet. We have 7 or 8 inches of black reef in the roof, which pans very well. It is here lying directly upon quartzites, which are nearly vertical. At 39 feet I came on a good looking banket reef belonging to these older quartzites. Width of this new reef about 3 feet 6 inches, with a 5 inch parting in the middle. There are really two reefs. Samples gave colours in the pan. Shaft 12 sunk 7 feet, total 39 feet. This shaft is in the same quartzites just mentioned. Intend crosscutting when some feet deeper. Shaft 6 sunk 7 feet, total 61 feet. Crosscutting east was commenced to-day. Shaft 8 is stopped on account of water. I shall crosscut above water level when this becomes stationary. Shaft 9 sunk 8 feet 6 inches, total 73 feet. Water is troublesome here also, and shall crosscut as in No. 8. I shall still be at a very fair depth (about 68 feet) sufficient for prospecting purposes.—Shaft 10. A new shaft north-west of No. 9 sunk 12 feet. The new well for boarding house, &c., is making good progress, sinking for the week 19 feet, total 41 feet. Foundations for office and stores are nearly finished, and the boarding house will be commenced upon next week.

KINSELLA.—Mine report for fortnight ending April 2: 43 feet level, north drive, section 14. These two drives reported last fortnight have now been holed, making 28 feet driven for fortnight; four men working here. This drive is now through to No. 2 north shaft. Lode averaging about 3 feet. We have also cut winze plat and cleaned up No. 2 north before starting to sink lode 3 feet in bottom.—43 feet level, north stope, section 15. Eight men in the stopes. Lode 4 feet. We are about to cut winze plat ready for sinking winze 136 feet north of No. 1 shaft north.—43 feet level, south stopes, section 21. Lode averaging 18 inches to 2 feet. Two men breaking stone.—Intermediate drive No. 2 south winze. 14 feet from back of 100 feet level. Have driven 44 feet north from No. 2 south winze; four men here. Lode 4 feet in width.—100 feet level, south drive, section 21. This drive is now in 362 feet, making 8 feet for fortnight. Reef 5 feet wide.—100 feet level, north stope, section 15. Four men are engaged in this stope, taking about 18 inches of stone on hanging or east wall side of lode.

KEMPINKOTE.—Superintendent's report for fortnight ending April 20: Garland's shaft. 500 feet north drive has been advanced 52 feet 6 inches, making a total of 322 feet from the main crosscut. We are carrying 5 feet wide of the footwall part of the lode, assaying 12 grains of gold to the ton. No. 1 west crosscut from the 500 feet north drive has been driven 8 feet 9 inches, making a total of 50 feet 9 inches from the footwall. There is nothing to value in the end, and this crosscut has been suspended. No. 2 west crosscut from the 500 feet north drive has been driven 8 feet, making a total of 20 feet 3 inches from the footwall. The lode is the full size of the end, but is of very low grade. 500 feet south drive has been advanced 32 feet 3 inches, making a total of 257 feet 6 inches from the main crosscut. We are carrying 4 feet wide of the lode which is worth 6 grains of gold to the ton. No. 4 west crosscut 245 feet south drive has been driven 3 feet, making a total length of 21 feet. The end is in schist and has been suspended. South drive from No. 2 winze 245 feet north drive has been extended 9 feet 6 inches, making a total length of 16 feet 3 inches. The lode is very much mixed with schist and is of no value. We are now commencing to drive in a northerly direction. No. 2 east crosscut from the 183 feet south drive has been driven 26 feet, making a total length of 103 feet 3 inches. The average assay value of the lode is 3 dwts. of gold to the ton. The whole of the end is in lode.

LINARES LEAD.—Mine report, dated May 6:—Pozo Ancho Mine, Peill's engine shaft. In the 200 west the lode, although large, is at present unproductive. The lode in the 178 west is small, and of no actual value. In the 200 east of Warne's crosscut the lode is wide, and contains some spots of lead ore. The lode in the 200 west is easy for driving through, and a good quantity of water is coming from the end. The 178 west turns out some good lumps of ore, and is valued at ½ ton per fathom. No. 279 winze sinking below the 155 has now holed to the 178 fathoms level. The lode was valued at 1 ton per fathom. No. 280 winze, below the 178 fathoms level, estimated at ½ ton per fathom. This winze is situated west of Warne's shaft, and in advance of the 200 fathoms level. The stopes continue to yield well. Surface works are kept on with great regularity, and the machinery is in good working order. Estimated raisings for May, 200 tons. The tributers returned 80½ tons of mineral in the last month.—Los Quinientos Mine: Taylor's engine shaft. The driving of the 200 crosscut south is suspended, as a trial is being made on the lode intersected. In the 200 fathoms level east the lode will probably widen out, and take the same bearing as in the 185 fathoms level. The lode in the 185 east is large, strong, and having open good stoping ground, worth 2 tons per fathom. In the 165 east the lode has fallen in value to ½ ton per fathom, but still looks promising. The lode in the 150 east, worth ½ ton per fathom, is wide, and turns out good stones of ore. Victor's winze, below the 185, is situated at the end of the crosscut, and, besides ventilating the 200, will prove the nature of the lode at that point. Estimated raisings for May, 150 tons. The tributers returned 43¾ tons of mineral in the past month.

MCKENZIE.—The following report has been received from the mine manager; Report of mine works for the past three working weeks,—Main engine shaft, 120 feet level. Chamber completed, dimensions of which are 10 feet long by 8 feet high by 8 feet wide. Lode at north end of chamber 1 foot wide estimated yield 8 dwts. gold per ton. Lode at south end of chamber 20 inches wide, estimated yield 2 ounces gold per ton. Have let contract to drive south on the lode, which will be started on the 6th inst.—No. 1 shaft. No. 1 stope north advanced 15 feet, total distance from shaft 65 feet. No. 2 stope north advanced 32 feet, total distance from shaft 50 feet. No. 3 stope north advanced 15 feet from shaft. Lode from 6 inches to 18 inches wide, estimated yield 1½ ounce gold per ton. No. 1 stope south advanced 22 feet, total distance from shaft 62 feet (which is the boundary). No. 2 stope south advanced 20 feet, total distance from shaft 40 feet. No. 3 stope south advanced 6 feet from shaft. Lode from 4 inches to 15 inches wide, estimated yield 3 ounces gold per ton.—No. 2 shaft. Have sunk on the lode a winze 5 feet deep in the level opposite shaft. The lode in the bottom is about 6 inches thick, estimated yield 5 ounces gold per ton. Will now continue this shaft vertical, and I anticipate the lode will underlie into the shaft 20 feet below present depth. Re main engine shaft, the striking of gold at the 120 feet level, in my opinion, enhances the value of the property considerably, as it proves that the lode exists and is gold bearing in the very hard rock such as we have been striking in.

MOUNT MAGNET.—The following fortnightly report has been received from the general manager, dated March 30:—Mullock Pass, Lease 563. The 60 feet level south has been driven 29 feet at 25 feet from Pass A. Breast head disordered the lode, and heaved it 9 feet west. We have again picked up the reef, which is 15 inches wide, and is yielding from 2 ounces to 3 ounces gold per ton.—South boundary shaft, Lease 64m. The lode in north drive has been pinched during the past few days, but is again opening out, a bulk sample taken from this reef sent to a public assayer at Cue gave a result of 16 dwts. per ton.—Main engine shaft, Lease 563. Two men are engaged here cutting down one end and side of shaft, also cutting pitches for bearers preparatory to placing shaft timbers in position.—Auriferous dyke shaft 563. Last Tuesday we resumed the sinking of this, and have sunk 9 feet, the ore body for whole width of shaft yielding high grade material, the quartz portion of the lode showing gold freely. Samples of quartz have been forwarded to you by this mail, so that you may examine the value and nature of the stone. We propose sinking to the 60 feet level and then open out south and connect with the crosscut extended west from No. 1 shaft north; after which we will cut through the formation to test its width and value. It now appears to be of great width.—Office shaft Lease 64m. The north drive is extended to 30 feet, and we have driven south 6 feet, the lode varying from 4 feet to 5 feet 6 inches in width. The stone is of low grade, and we have suspended operations here, and have placed the men at more profitable work—viz., deepening the north shaft on Eastern reef. I have curtailed the surface improvements until arrival of the hoisting engine, and am securing a supply of local mining timber for stulls, passes, &c.

No. 7 NORTH-EAST QUEEN.—The following fortnightly report has been received from the mine, dated Charters Towers March 27: Hamilton and party have their drive in a distance of 101 feet, with but little stone here and there as they go along, still proceeding with the level. Penhallwuck and party have a good face of stone right along their stope about 14 or 15 inches right through. They intend crushing from 35 to 40 tons during the next week. Ferguson and party, there is nothing fresh to report. They have a big body of poor stone with a small vein of medium quality on the foot. Mount and party have their winze down 32 feet, with 10 inches of stone of poor quality on the western side going down. Wherry and party have a splendid reef in their leading stope, 2 feet 6 inches thick in places. The No. 2 stope is patchy, yet I think they will average 14 or 15 inches for 40 feet long. They intend crushing sometime next week, and I think should put through close on 50 tons. Balks and party have finished, as the stone cut out with them. I have let a block of ground to Motton and party at the back of No. 4 level. There is 18 to 20 inches of stone in the face, but the quality is poor. Hauled 25 tons of quartz for the fortnight, and baled 681 tanks of water.

ORIENTAL.—Mine report for fortnight ending April 18: Mining. Taylor's engine shaft. During the fortnight we have completed the erection of the temporary pumping engine, and it would have been started had not a delay occurred in forwarding two new pistons ordered from Madras. The founders have, however, promised to forward them in the course of two or three days. The pitwork has also been fixed in the shaft, and as soon as possible we shall resume sinking.—Bridge shaft. The lode in the 105 feet level south of this shaft is 3 feet wide and very well defined. It is composed of country rock intermixed with stringers of quartz, and a sample from it yielded 5 dwts. 21 grains of gold per ton. In the two weeks the level was extended 4 feet making the total length 144 feet.—Trial shaft. Here we have attained a total depth of 67 feet, of which 4½ feet have been sunk since my last report. The lode maintain its width of 5 feet, but no particular change has occurred in its composition.

WEST AUSTRALIAN GOLD CONCESSIONS.—The manager writes as follows under date of April 2: Black Flag, Talisman east block. The reef is 6 feet wide. Prospect from the reef gives a return of 2½ ounces per ton, and this line of reef runs along the eastern slope of the Talisman and dips into the Talisman East, and the line of reef can be traced right through the Talisman East. There are four defined reefs running through this block, and I have no doubt but there is good chutes of gold in them.—Meteor block. The men driving at the 60 feet level have cut three reefs, two running parallel and one cross reef; the reefs average 18 inches to 3 feet 6 inches, all fair battery stone.

PROVINCIAL SHARE MARKETS.

THE CORNISH MINE SHARE MARKET.

Mr. MICHAEL WILLIAMS BAWDEN, Mining and Assaying Office, Liskeard, Cornwall, writes (May 14):—The Mining Market is without any change, still presenting a dull and monotonous appearance, with apparently an absence of business. Quotations:—Basset United (fully paid), 1 to 1½; ditto (5s. paid), 5s. to 6s.; Blue Hills, 1s. 9d. to 2s.; Carn Brea, 9s. to 10s.; Devon Consols, 1 to 1½; Delcoath (fully paid), 15s. to 16s.; ditto (7s. 6d. part paid), 5s. to 6s.; Drakewalls, 6d. to 9d.; East Pool, 2⅜ to 2½; Killifreth, 6s. to 6s. 6d.; Levant, 4 to 4½; Polberro, 8s. to 9s.; West Kitty, 2 to 2½; Wheal Grenville, 6 to 6½; Wheal Kitty, 4s. to 5s.

Messrs. ABBOTT AND WICKETT, Stock and Share Brokers and Mining Share Dealers, Redruth, write under date of May 14:—A dull market all the week, with but little doing, and prices practically unchanged. At the moment dealers are not operating, and it is difficult either to buy or sell. Quotations herewith:—Blue Hills, 1s. to 2s.; Basset Mines, 1 to 1½; Carn Brea, ⅜ to ½; Delcoath (fully paid), 14s. to 15s.; ditto (7s. 6d. paid), 5s. to 6s.; East Pool, 2⅜ to 2½; Killifreth, 6s. to 6s. 6d.; Polberro, ½ to ¾; South Crofty, ⅜ to ½; Tincroft, ⅜ to ⅝; West Kitty, 2 to 2½; Wheal Grenville, 5½ to 6; Wheal Kitty, ⅜ to ½; Wheal Metal (3s. paid), 3s. 6d. to 4s.

MANCHESTER.

Messrs. JOSEPH R. and W. P. BAINES, Stock and Share Brokers, Queen's Chambers, 7, Market-street, write, May 14 (noon):—As regards rails changes for the past week are irregular for British (with slight majority yet on the upward side), but otherwise, save for a slight improvement in Canadian Pacifics, the record is all downward. The declines, however, are nowhere severe, if we except Mexican rails first preference with fall of 2½. Consols are put down ⅜ on the week. The only alteration made in Colonials is advance of ½ in Canada Registered. Home corporation stocks, &c., continue or favour the movements, as will be seen below, being all on the upward side. Foreigners where altered at all are better with the single exception of Uruguay, which quote ½ below last week's figures. The daily movements have not been such as to require detailed mention, so we content ourselves with the above remarks, and drawing attention to the changes given hereunder:—

ENGLISH RAILS.—Higher: Great Eastern, ⅜; Great Western, ½; Lancashire and Yorkshire, 2; Brighton A, ½; Chathams, ½; Districts, ⅜; North British, ½; Dover A, ⅝.—Lower: Caledonians, ½ to 1; ditto Deferred, ½; York A, ⅜; Sheffield A, ⅜; Midland, ⅛; Berwicks, 1 to 1½.

CANADIANS AND AMERICANS.—Higher: Canadian Pacific, ½.—Lower: Aitchison, ½; ditto Income Bonds, ⅜ to ⅝; Grand Trunk, ½; ditto Guaranteed, ½; ditto First Preference, ⅜; ditto Second Preference, ½; Mexican Rails, ½; ditto First Preference 2½; ditto Second Preference, ½; Central Pacifics, ⅜; Milwaukees, ½; Denvers, ½; ditto Preference, ½; Louisvilles, ½; New York Central, ⅜; Eries, ½ to ½; Ontarios, ⅜; Norfolk Preference, ⅜; Readings, ½ to ½; Union Pacifics, ½; Atlantic First, ½.

CONSOLS.—Lower: Two and Three-quarter per Cent., ⅜.

COLONIAL STOCKS, &C.—Higher: Canada Registered, ½.

CORPORATION STOCKS AND DEBENTURES.—Higher: Bolton Three and a-Half per Cent, 1½ to 2½; Bradford Three and a-Half per Cent., 3; Bristol Three and a-Half per Cent., 1; Bury Three and a-Half per Cent., 3; Manchester Four per Cent., 1 to 2; Nottingham Three per Cent., ½.

FOREIGNERS.—Higher: Argentine Six per Cent., 1¾; ditto Five per Cent., 2; Brazilian Four and a-Half per Cent., 1; Italian Rentes, 1⅜; Portuguese Three per Cent., ½; Turks' Series D, ½.—Lower: Uruguay Three and a-Half per Cent., ½.

BANKS.—Higher: Imperial Ottoman, ½; Lancashire and Yorkshire, ½.—Lower: District, ½; National Provincial, ½; Parr's and Alliance, ½.

INSURANCE.—Higher: Guardian, ½; Manchester Fire, 1-16.—Lower: British and Foreign Marine, ½ to ⅝; Liverpool, London, and Globe, ½; Royal, ⅜; Thames and Mersey, 1-16; Union Marine, ½.

COAL, IRON, &C.—Higher: Cammell's, ½; Parkgates, ½.—Lower: Bolckow (£20 paid), ⅜ to 1½; Ebbw Vale, 1-16; Sheepbridge, ⅛.

TELEGRAPHS AND TELEPHONES.—Higher: West and Brazilian, ½; ditto Preference, ½.—Lower: Anglo-American Deferred, ½; ditto Preference, 1; National Telephone, 3-16 to ½.

BREWERIES.—Higher: Bent's, ¾; Massey's, ½ to ⅝; Showell's, ½; Springwell, ½ to ⅝; Tamplin's, ½; Taylor's Eagle, ½.—Lower: Allsopp's, 6; Guinness, 1.

MISCELLANEOUS.—Higher: Armitage's, ½ to ¾; Brunner Mond, ½; Bryant and May, ½; Chadwick's, 1⅜; Coats, 5½; Henry's, 1-16 to ⅛; Hetherington's, ½; Milner's Safe, ½; Star Paper, ½; Whitworth's, ½; Manchester Trust, 1s.—Lower: Bovril, 1½; Cunard Steam, ⅛ to ¼; Earle's, ½; Lister's, ½; Manchester Carriage A, ½; Salt Union, 3-16; Northern Assets, 1s. 6d.

LATER (4 p.m.)—Home rails continue steady, Coras and North British finishing ½ up on day. Grand Trunks shade harder, but Mexican issues lower. Americans have been firm all day in response to better prices from New York and close at about best point.

SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, Stockbroker and Ironbroker (May 14), writes:—During the past week the markets have been irregular, owing to fears of labour disputes with the Tees and Clyde engineers, and to political rumours. The fortnightly settlement is now in progress, and rates of continuation have been light to new account, May 29.

In shares of coal, iron, and steel companies, prices do not show much alteration. Steel Company of Scotland B Debentures offered. Bolckow Vaughan are at 14; Marbella, 41s.; Niddrie, 41s. 6d.; Stewart and Clydesdale, 12¼.

In shares of copper concerns prices are generally higher. Rio Tinto have risen from 20 11-16 cum. div. to 21½ ex. div. of 12s. per share, Arizona have improved to 59s. 6d., and Tharsis to 8½. Mason and Barry unaltered, Although the dividend of 2s. 6d. per share is payable next week, the return of £1 per share will not be made till October.

In shares of gold and silver mines there has not been much business doing, owing to the unsettled state of affairs in the Transvaal. Chartered declined from 65s. 6d. to 59s. 6d., but have recovered to 63s. 6d. The movements in Consolidated, East Rand, Randfontein and Sheba have not been large. It is said there is a proposal to amalgamate the Afrikander Company with the Rietkull Gold Mines. Mysore show a good advance on an improvement at the mine. Broken Hill declined from 46s. 6d., but have recovered to 51s. 6d., and it is said they have made a good discovery. Associated Western Australia are at 41s. 3d.; African Estate, 45s.; Big Blow, 14s. 6d.; Bonanza, 57s. 6d.; Consolidated Gold (W.A.), 10s.; Crown South 51s. 6d.; Day Dawn P.C., 3s. 3d.; Doornkop, 3s. 6d.; Eastleigh, 23s.; Emma, 2s. 3d.; Ginsberg, 40s.; Gwalo, 1s. 9d.; Gold Coast Development, 3s. 9d.; Graskop, 5s.; Hit or Miss, 37s. 6d.; Hall Mines, 35s.; Klerksdorp, 16s. 3d.; Kathleen, 4s. 3d.; Lion Mozambique, 17s. 6d.; Lisbon Berlyn, 5s. 9d.; Murchison New Chum, 8s. 9d.; Montana, 7s. 3d.; Nundydroog, 61s.; New Queen, 9s. 3d.; North Boulder, 12s. 6d.; Ottos Kopje, 1s.; Paddington Consols, 27s. 6d.; Rhodesian Mining and Finance, 25s.; Sheriaw's, 14s. 3d.; Sam's Wealth of Nations, 5s. 3d.; Sutherland Reef, 6s.; South Luipaard's Vlei, 1s.; Tamworth, 10s. 9d.; Umtali, 9d.; United Rhodesia, 16s.; United Gold Fields of Mancin, 7s.; Victory, 1s. 9d.; West Australian Gold Concessions, 37s. 6d.; and Wealth of Nations Extended, 21s.

In shares of miscellaneous companies there is not much alteration to notice. In oil companies Broxburn are at 10⅜; Pumpherston, 7½; and Young's 35s. Nobel Dynamite have improved to 19½.

EDINBURGH.

Messrs. THOMAS MILLER and SONS, Stock and Share Brokers, 69, Hanover-street, Edinburgh, report as follows under date of May 14:—There has been a considerable business in the leading Scottish Railway stocks, which, after being depressed, have recovered. Caledonian Deferred has receded from 62⅜ to 62 1-16. North British has risen from 49½ to 50. Highland has declined from 104½ to 102½. In insurance shares, Northern have risen from 73½ to 76, Scottish Metropolitan Life from 40s. 3d. to 41s., National Guarantee from 69s. to 69s. 6d. British and Foreign Marine have declined from 25 to 24⅛. Caledonian from 29 to 28⅝ ex dividend, Liverpool, London, and Globe from 55 to 54¾, North British and Mercantile from 41½ cum. to 39½ ex dividend, and bonus of 32s. 6d., Royal from 55⅛ to 53½. Standard Life have been specially depressed on the announcement of the dividend, and have fallen from 64½ cum to 57 ex div. of 20s. In banks, British Linen have advanced from 407 to 412, Union from 21 5-16 to 21⅝. Commercial have declined from 76 to 75¾. British South Africa shares have improved from 61s. 3d. to 65s., Scottish Reversionary from 8⅜ to 8⅞. Arizona Copper have improved from 56s. 9d. to 59s. 6d., Tharsis from 108s. to 109s. Steel shares have receded from 100s. to 97s. Indian mines generally have advanced. Oils little changed. Broxburn have improved from 10¾ to 10 15-16, Youngs from 33s. 6d. to 35s. 6d. Distillers have risen from 22 13-16 to 23 1-16. Barry Ostlers have improved from 10½ to 10¾d. Coats have risen from 39⅜ to 44½. Nobels from 18½ to 18 9-16.

PETROLEUM IN VENEZUELA.—A company has just been formed in Brussels, with a capital of £150,000, to acquire and exploit some petroleum yielding land in Venezuela. The company's title is La Compagnie des Pétroles des Andes (Amerique du Sud).

NEW COAL DEPOSITS IN RUSSIA.—Some deposits of lignite in the Government of Volhynia, near Kremenez, have been acquired by a Franco-Russian Company which has lately been formed in the town of Zytomiers (Volhynia).

THE IRON AND STEEL MARKET.

The following is the Quarterly Report of Messrs. BARRY, HEAD, and Co., May 14:—

TO-DAY'S APPROXIMATE BASIC PRICES, WITHOUT ENGAGEMENT.

	Price per ton.	F.o.b at	Less discount. Per cent.
IRON.—			
Superior Crown Bars	£5 5 0	Middlesbro'	3
Common Bars	5 2 6	do	3
Ship Plates	5 0 0	do	3
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STEEL.—			
Bars	5 15 0	do	3
Ship Plates	5 5 0	do	3
Ship Angles	5 0 0	do	3
Hoops and Strips	6 0 0	do	3
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Heavy Rails, 56 lbs.	4 10 0	Works Port	nett.
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MANCHESTER GEOLOGICAL SOCIETY.

ON Friday of last week a meeting of the above society was held in the Mining School, Wigan, Mr. ROBERT WINSTANLEY, C.E., the President occupying the chair, and there was a good attendance, including several Government Inspectors of Mines, and a number of mining engineers connected with the collieries of the district.

Mr. Henry Hall exhibited several specimens of German self-igniting safety lamps, which he had shown at the previous meeting of the society held in Manchester, of which we have already given a full description, and there was a short discussion, following much the same lines as that which took place at the Manchester meeting with reference to these lamps.

Mr. Eddleston, of the Hindley Green Collieries, exhibited a set of what may be termed secondary safety catch appliances, which he had designed with a view of preventing accidents in the event of primary catches failing to act. These secondary catches were very ingenious and simple arrangements, and were favourably commented on in the short discussion which followed, being regarded as a useful addition to the catches already in use.

Safety in Colliery Winding.

Mr. C. M. PERCY, M.I.M.E., F.G.S., read a paper on "Safety in Colliery Winding," in which, after detailing the essentials in colliery winding, he introduced to the meeting the application known as the Visor, invented and patented by Mr. Alexander Bertram, and applied by the Wigan Coal and Iron Company at many of their collieries. Recent events drew the writer's attention to the appliance again, and in the presence of the students of the Wigan Mining School he made a series of experiments with it at the Alexandra Colliery. The first series of experiments dealt with the case of winding engines being started the wrong way, and on the cage rising a few feet above the bank the Visor acted, and stopped the engines dead. The second series of experiments dealt with engines running away at full speed. After setting the engines in motion the engineman left the handles, and the engines rushed on their career, attaining a cage speed of 60 miles an hour. At the appointed place the Visor automatically came into action, and shutting off the steam and applying the brakes, stopped the engines in about three revolutions. The distance in which the machinery is brought to a stand gives rise to two considerations. The first is, that so far as the engines only are concerned, that distance depends entirely upon brake power, and the brakes must not be too powerful, or the engines will be stopped too suddenly, and a serious breakage may result. The second consideration is that the ascending cage, by reason of its velocity, will rise a given height whatever the brake power may be; and to stop the engines in a less distance than that would be a source of danger, because the cage would continue to rise, slack rope would accumulate, and the cage falling back would exercise such a strain that the rope would break. At a speed of 60 miles an hour, if at any moment the engines were stopped dead, the cage would continue to rise 120 feet, and at a speed of 30 miles an hour 30 feet. Under the ordinary conditions of winding the Visor interferes in no way with the engineman and his work, and might be non-existent; it is a great reserve force, which acts only when the dominions of safety are invaded. An essential part of the mechanism is the governor arrangement worked from the winding engines, and this governor determines the speed at which the cage will be allowed to pass a given point. If the speed is exceeded, a catch is automatically liberated, and falling weights apply the brakes and shut off the steam. The limit of speed is a determinable quantity, and the point of action can be fixed at will. The starting the wrong way arrangement is no essential part of the Visor patent, except in so far as when the cage gets too high it relieves the catch referred to regardless of speed.

Mr. BARRETT moved a vote of thanks to Mr. Percy for his paper, in which he said the question had been made perfectly plain even to those who, although interested in collieries, might not be practical mining engineers.

Mr. HALL, Inspector of Mines, seconded the motion. He thought the apparatus described would have a tendency to lessen accidents and contribute to greater economy in the working of collieries than some of the machinery at present in operation.

Mr. UNSWORTH, of the Scott Lane Collieries, said Mr. Percy had put before them a number of very useful suggestions. The question of ropes mentioned in his paper was a very important factor in safe colliery winding.

After some further discussion by several members, in which the opinion was expressed that detaching hooks had a tendency to make colliery engine-winders careless, which was, however, strongly controverted by others, Mr. HALL mentioned a case in which an engineer succeeded in putting on the brake and cutting off the steam, but there was still an overwind.

Mr. PERCY remarked, in reply, that if the brake was to act, it must have a certain distance in which to act properly.

Mr. HALL asked whether they must understand that they must have detaching hooks as well as the Visor arrangement.

Mr. PERCY replied that detaching hooks were also necessary, but the Visor dealt with a state of things which the hooks did not operate upon.

In the course of further discussion, it was stated that there was no doubt in many cases the Visor had prevented overwinding, but still there had been overwinding even with the Visor.

Mr. DEAN remarked that it had acted very satisfactorily at their collieries, and in one case had prevented what might have been a very serious accident. In his opinion it was an excellent arrangement, and might be applied with advantage to all the pits in the district.

After some further discussion, Mr. PERCY briefly acknowledged the vote of thanks, and the proceedings closed.

SOUTH AFRICAN TRUST AND FINANCE COMPANY (LIMITED).—A meeting of the shareholders was held on Tuesday, at Winchester House, to consider the report of the liquidators, one of whom Mr. L. B. Burns, presided.—The Chairman referred to the conditions under which the company went into liquidation, and to the agreement made with the Johannesburg Consolidated Investment Company for the acquisition of this company's assets. The liquidation had, he said, so far proceeded fairly smoothly, and provision was being made in anticipation of a final distribution of the assets. He afterwards alluded to the claim made by Messrs. Hirsch and Co. on the liquidators, and stated that they had heard nothing further since the matter came before Mr. Justice Vaughan Williams on the 7th inst. This claim had been the great difficulty in connection with the liquidation, which would otherwise have been over 12 months ago. It was, of course, impossible to say when they would obtain a decision.—Eventually a resolution approving the accounts was carried unanimously.

BRUSSELS INTERNATIONAL EXHIBITION, 1897.—The Department of Science and Art has received, through the Foreign Office, a copy of a Belgian decree, applying Article XI. of the Convention concluded in Paris on March 20, 1883, for the protection of industrial property, to the goods, &c., that may be sent to the Brussels International Exhibition, which is to take place next year.

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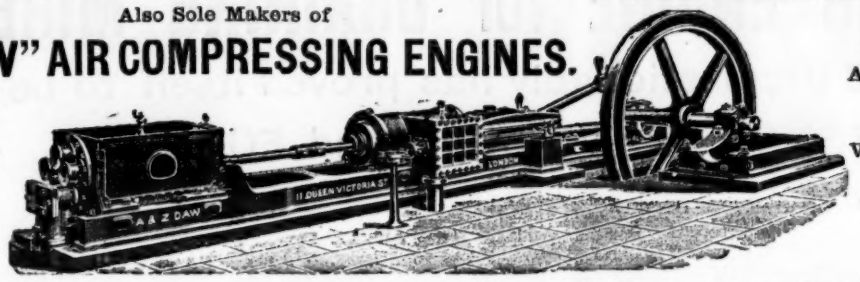

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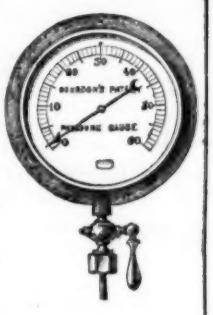

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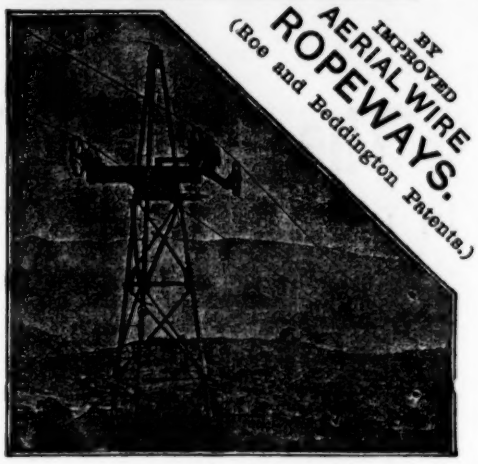

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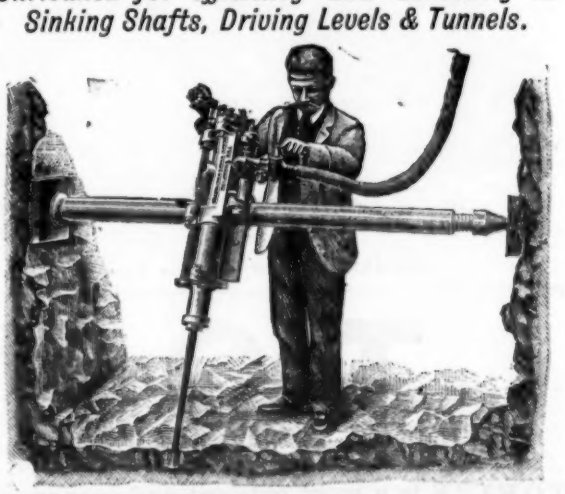

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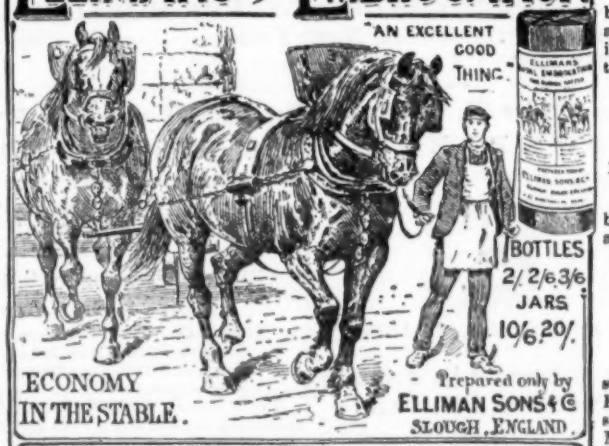

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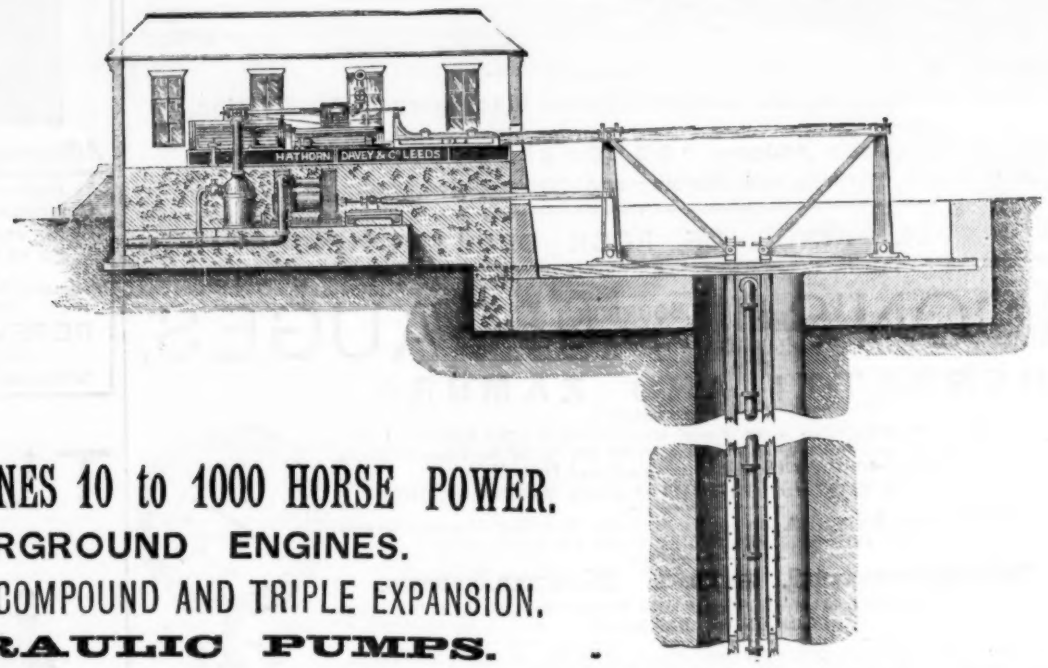

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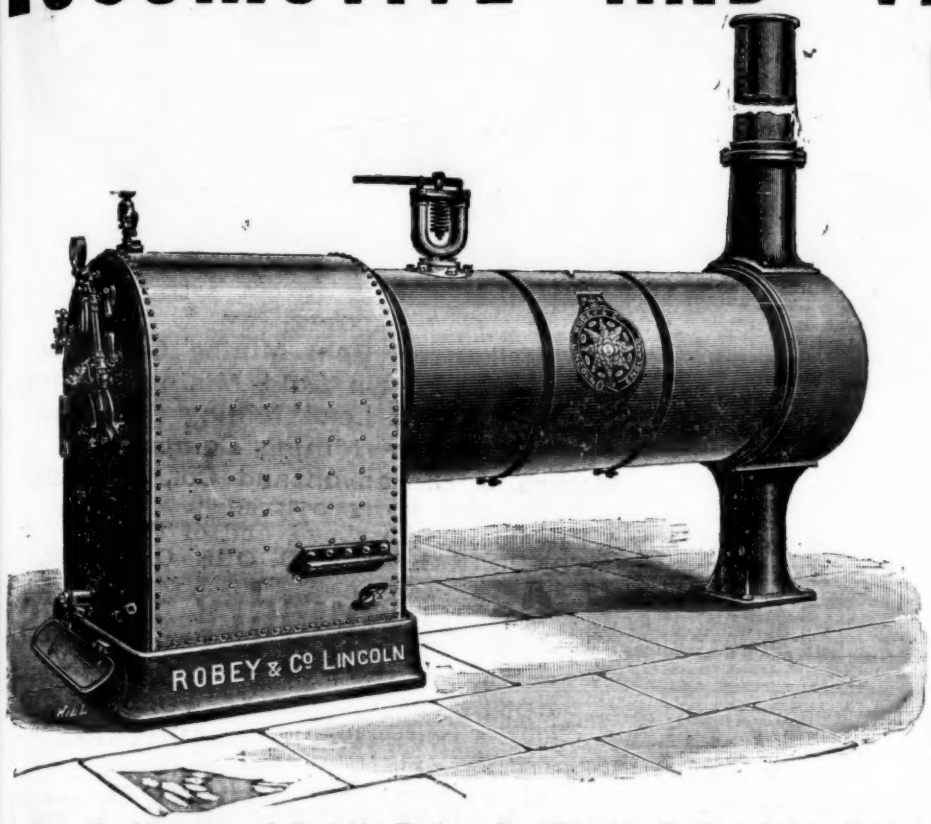

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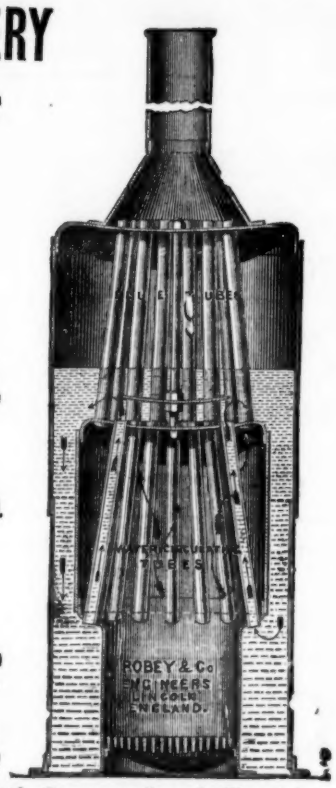

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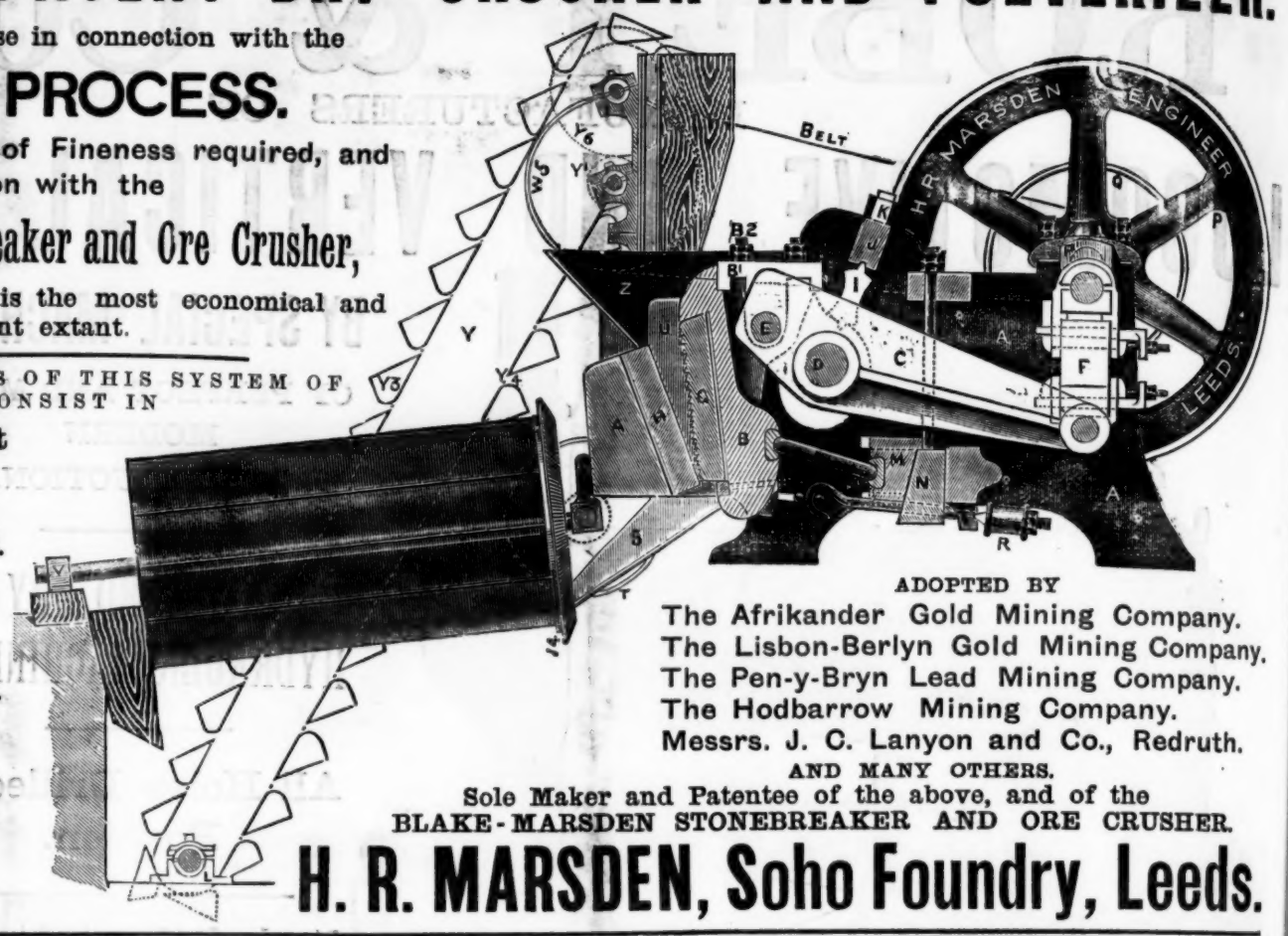

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